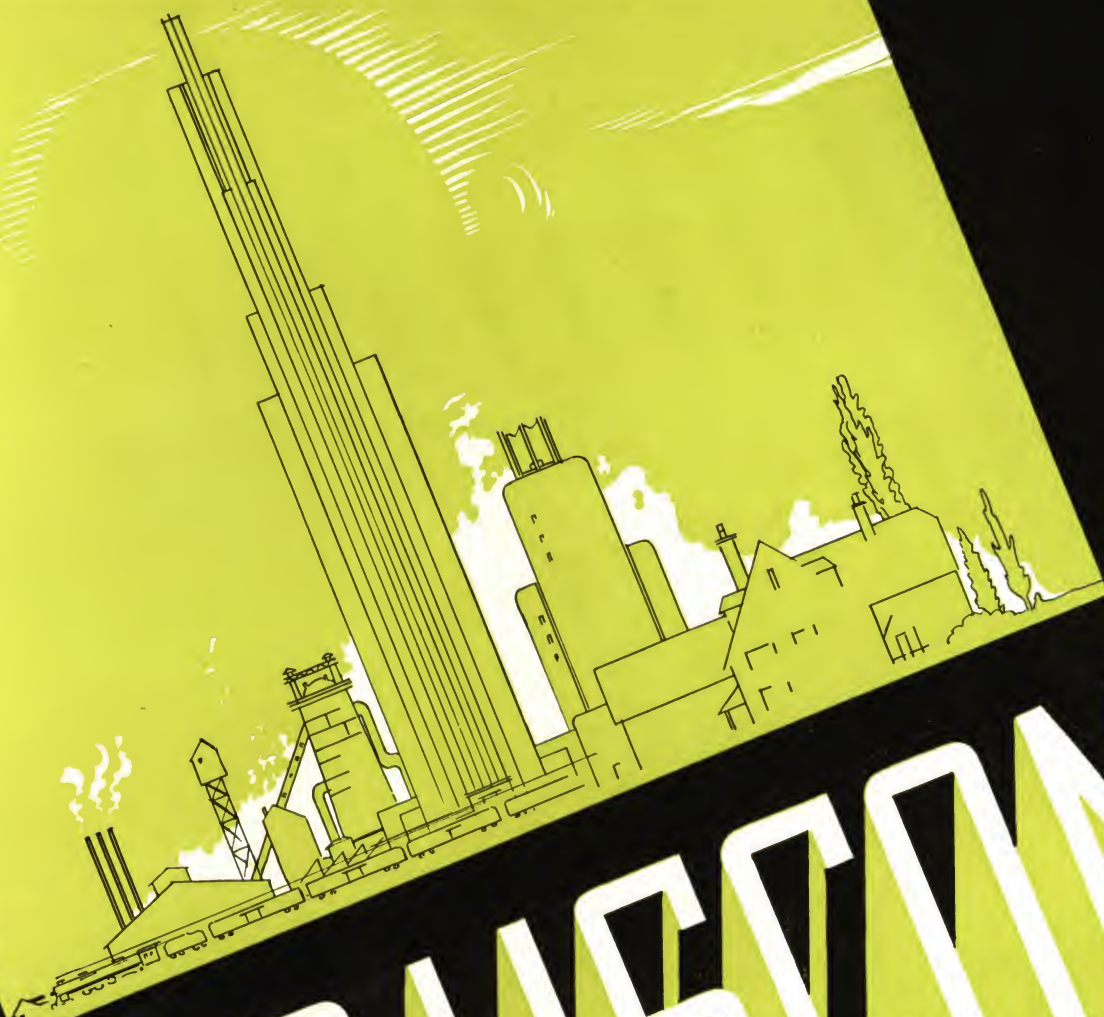




TRUSCON BUILDING PRODUCTS

THE COMPANY AND ITS PRODUCTS

THE TRUSCON STEEL COMPANY, of Youngstown, Ohio, is an institution of international scope—the largest company of its kind in the world, manufacturing a complete line of steel building products.

They have been developed in accord with modern architectural requirements for utility and quality, and include individual units peculiarly suited to all types of building and every structural condition.

Due to unusually efficient manufacturing facilities, the profession is assured of dependable workmanship. This, in turn, is supplemented by a nation-wide engineering organization equipped to render direct personal service in the designing room or the field. Our location of offices and warehouses guarantees speedy attention to inquiries.

The TRUSCON STEEL COMPANY of 1935 represents over *"Thirty-two Years of Pioneering and Leadership"* and the following noteworthy line of nationally known building and maintenance products:

Windows, of Steel, Aluminum and Bronze; Steel Doors and Frames; Reinforcing Steel; Steel Joists, Clerespan Joists; Welded Steel Fabric; Metal Lath and Insulmesh for Plaster Bases; Ferroclad Insulation Panels; Steeldeck and Ferrocoustic Roofs; Structural Steel; Unigrid and Teegrid Bridge Floors; Gratings; Safety Tread Steel; Rolled and Formed Sections; Power Transmission Structures; Steel Poles and Towers; Radio Antennas; Steel Buildings; Pressed Steel Specialties; "Silentaire," a Window Ventilator and Muffler; and varied Industrial Maintenance Products.

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ARCHITECTURAL SERVICE

TRUSCON'S designers and engineers work in close relationship with architects, builders and contractors in the interest of a better understanding of all requirements. Architects are invited to call on our Service Department for preliminary estimates, for investigations, studied reports, complete suggestions and definite quotations.

WINDOW AND DOOR SERVICE

Truscon Window and Door Service knows no bias in its recommendations, for Truscon can furnish any type or kind of window or door. And with Truscon's intimate knowledge of latest de-

velopments, relative costs, advantages and limitations of standardization and quantity production, it can work efficiently towards its objective—the best interests of the architect and the owner.

ERECTION AND ADJUSTING

The satisfactory operation of a window or door installation is in a large degree dependent upon the manner in which it is installed and adjusted. Realizing this fact, the TRUSCON STEEL COMPANY has built up a national organization of experts familiar with our windows and doors in every detail and ready to take the full responsibility of erecting and adjusting our windows and doors to the satisfaction of the architect, the general contractor and the owner.

Most architects and contractors realize the value of Truscon Erection and specify and award all

contracts erected and adjusted. This window and door service means that the TRUSCON STEEL COMPANY and its field organizations take full responsibility for the installation from the start of manufacture up to and including its incorporation in the finished structure.

We look after shipment; unloading at destination; cartage and storage at the job; hoisting and distributing on the various floors; setting, plumbing and fastening in the opening; applying of hardware and the final inspection and adjusting of windows and doors after painting.

SCOPE OF TRUSCON WINDOWS AND DOORS

TRUSCON windows and doors cover a wide range of building requirements and at the same time meet every condition of architectural harmony, simplicity, fine quality and superior craftsmanship demanded by the industry. Truscon offers the following types:

WINDOWS

Double-Hung Windows—(steel, aluminum or bronze). In types and sizes to meet architectural requirements.

Awning Type Windows—Prevent sun glare and drafts; ideal for schools and hospitals.

Casements—A complete line for monumental and public buildings, institutions, apartments and dwellings, including screens and operators for screens, wood surrounds, windows and artistic hardware.

Monumental Projected Windows—For quality installations.

Detention Windows—For prisons, reformatories and psychopathic hospitals.

Architectural and Commercial Projected Windows—A practical window with many applications.

Continuous Windows and Operators.

Pivoted, Utility and Basement Windows.

Silentaire—Mechanical and non-mechanical units.

DOORS

Industrial Doors—For large and small openings.

Overdoors—Operating overhead.

Accordion Doors—Leaves fold against each other like a jack-knife.

Vertical Lift Doors.

Canopy Doors and Bifold Doors.

Airplane Hangar Doors—In various styles, straight track types, curved track types, canopy, telescoping and projected types.

Pier Doors—A vertical lift-swing type.

TRUSCON STEEL COMPANY—YOUNGSTOWN—OHIO—U.S.A.

DOUBLE-HUNG WINDOWS

MODELS Nos. 27 and 28 Counterweighted

TRUSCON Models 27 and 28, plate type, Double-Hung Windows are galvanized and bronze weatherstripped and meet U. S. Government specifications for salt spray test and air filtration.

Frames are made in one unit and are solidly welded at corners, insuring alignment and ease of operation. Chains are concealed for better appearance, and the entire window has a trim, neat look. Because they are completely fabricated in the factory, field labor is small, and the actual ultimate price compares favorably with that of windows of inferior materials.

Weightless mullions, as detailed on page 6, give narrow slight lines as required in certain architectural designs. In this construction the separate windows are built as an integral unit and all weights are carried at the opening jambs and there are no weights carried in the mullion.

Standard mullions are made of structural "Tees" and straps, and are used to join standard units in the field.

The Model 27 Window is lighter in construction and consequently lower priced than the Model 28 Window.

CONDENSED SPECIFICATIONS

(1) **General**—All window openings shown on drawings, unless otherwise specified, shall be equipped with solid steel, plate type (galvanized and weather stripped), double-hung windows as manufactured by the TRUSCON STEEL COMPANY of Youngstown, Ohio. (Specify herein whether Model No. 27 or No. 28 is required.)

(2) **Material**—All windows throughout shall be constructed of Truscon special hot-rolled new billet steel, galvanized. The gauges of the various sections will be as shown in table:

	Model No. 27	Model No. 28
Sill	14 gauge	12 gauge
Weight box	18 gauge	16 gauge
Cover plates and parting strip.....	16 gauge	16 gauge
Staff bead	12 gauge	12 gauge
Head and head covers.....	16 gauge	16 gauge
Rails and stiles of sash.....	14 gauge	12 gauge
Inside glazing strips at jambs.....	14 gauge	14 gauge
Top and bottom rails.....	14 gauge	12 gauge

(3) **Scope of Work**—The steel window manufacturer shall include in his work all steel Double-Hung Windows erected complete, and shall furnish and apply hardware and weights and make a final adjustment of windows shown on drawings and covered in specifications.

(4) **Construction**—(a) *Frame Members*: head, sill and jamb construction, each one piece of metal exclusive of parting strip, weight box cover and head cover; all members formed straight and true with welded joints ground smooth; staff bead formed on exterior of frame.

(b) *Pulley Stiles* shall be formed with deep weathering and the pulley stile and weight box cover held in place with one line of oval head screws passing through a heavy reinforcing piece on inside of jamb. Adjustment of sash and frame shall

be secured by these screws which hold the pulley stile and weight box cover. The weight box cover shall run the full height of the jamb from sill to head, and shall be removable.

(c) A *brass check plate* shall be attached at meeting rails to insure proper weathering.

(d) A *window stop* shall be provided to prevent air entering room from slot under upper sash.

(e) *Sash Members* shall be so designed that the distance from masonry opening to glass line at jambs and head will be 2½ in.

(f) *Glazing Strips* secured with oval head screws permit inside glazing.

(5) **Weather Stripping**—Weather stripping shall be provided of spring bronze and applied to sash members at sill, jambs, meeting rails and head. A spring bronze closure shall be applied to lower half of outer sashway.

(6) **Hardware**—(a) *Frames* shall be equipped with pressed steel pulleys and pressed steel housings with hard steel pins in a brass bushing. Sash shall be hung on No. 130 galvanized steel sash chains concealed behind pulley stiles and properly balanced with cast iron weights.

(b) *Sash* shall be equipped with one pair of lift handles, one combination adjustable sweep lock, one pull-down handle and one pole socket for upper sash, all of solid bronze.

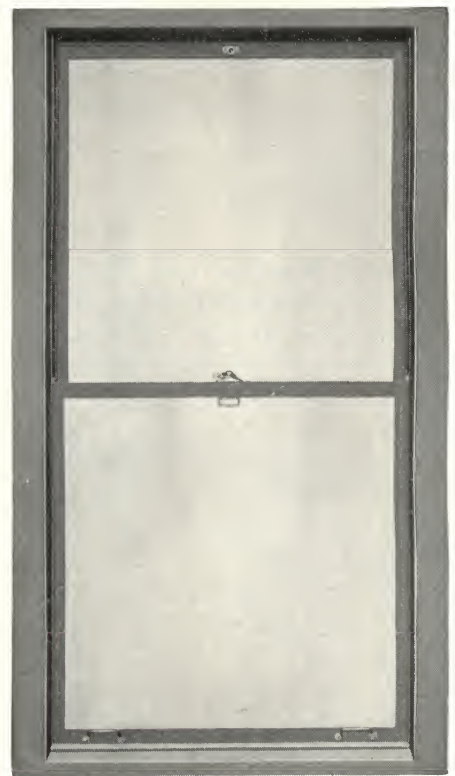
(Cadmium plated malleable iron hardware can be substituted at slight reduction in price.)

(7) **Painting**—All windows shall be given one coat of protective paint after assembly and before shipment.

CONSTRUCTION DETAILS

(Illustration on Page 5)

(1) **Section Through Head of Window**—Showing adaptability of head section to any type of construction and positive contact between sash and frame.



(2) **Muntin Bars**—Furnished horizontally and vertically. They are interlocked and welded at all intersections.

(3) **Section Through Jamb**—Illustrating the dual function of the jamb frame as weight box and sash guide. A removable weight-pocket-cover-plate extending from sill to head makes the weights easily accessible, and a light metal parting strip between the weights prevents them from becoming twisted or locked together. Proper weathering is secured through spring bronze weather stripping attached to the sash stiles.

(4) **Concealed Grout Holes**—At each end of the sill, and back of the removable cover plate, make it easy to fill the opening under the sill with grout, thus assuring a firm and weather-tight bed for the window.

(5) **T-Shaped Mullions**—Are used for joining two or more windows in a single opening, and are held in place by means of concealed steel straps which eliminate all unsightly projections.

(6) **Pair of Lifting Handles**—Are tap-screwed through two thicknesses of metal to the bottom rail of the lower sash.

(7) **Section Through Bottom of Window**—Showing double contact weathering between sash and sill. The sill section of frame is formed from a single piece of steel, sloped to the outside to insure good drainage.

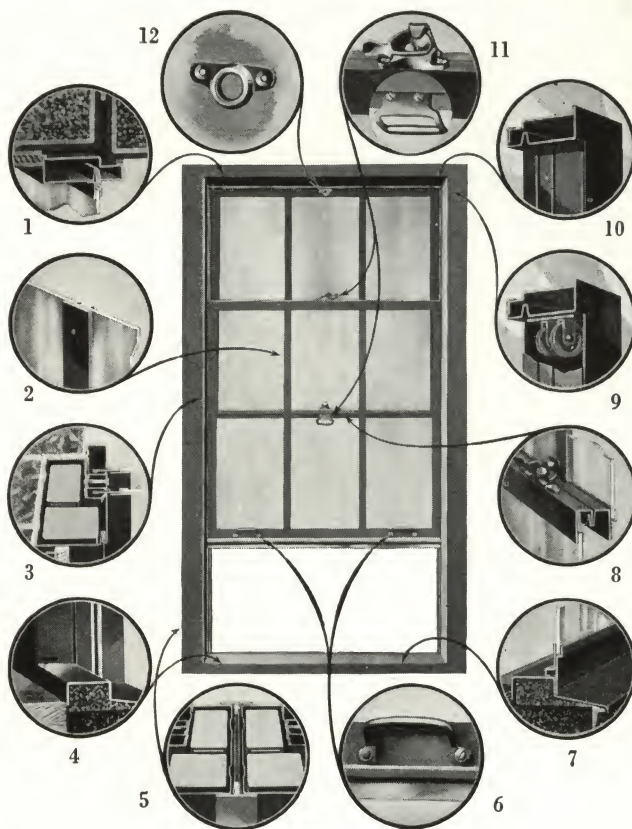
(8) **Section Through Meeting Rail**—Showing interlocking contact between the upper and lower sash, and the spring bronze weather stripping on upper rail of lower sash. Brass weathering plates are attached to the parting strip at the meeting rail to assure additional weather protection. The bottom rail of upper sash is shaped to act as a drip.

(9) **Cutaway View of Jamb Frame**—Showing the bronze-bushed pressed steel chain pulleys that turn on hardened steel pins in heavy, pressed steel housings.

(10) **Section Through Head of Frame**—Showing one-piece channel construction with recess to receive upper sash rail; stiff mould formed from two thicknesses of metal and head cover welded to frame section.

(11) **Combination Sweep Lock and Pull Down Handle**—The sweep lock is adjustable to secure proper contact and locking.

(12) **Pole Socket**—Attached to the top rail of the upper sash.



WINDOW UNITS WITH TRANSOMS

Transoms are incorporated in the main frame of the standard size Double-Hung Window. They are not a separate unit. All hardware is of standard design and finish. Muntin bars can be furnished in accord with individual specifications.

COUNTERBALANCED WINDOWS

Counterbalanced windows are of the same design as standard Double-Hung Windows, Models Nos. 27 and 28, except that counterweights are omitted and the sash counterbalance each other.

SEGMENTAL OR CURVED HEAD UNITS

Segmental or Curved Head Units can be provided in almost any radii or design. The inside of this window is finished square to facilitate the use of shades and drapes and provides for the practical approach of the sash without interfering with the exterior masonry treatment.

ERECTION AND ADJUSTMENT

Most architects and contractors realize the value of Truscon Erection and specify and award all contracts for double-hung windows erected and adjusted. This service means that Truscon takes full responsibility for the windows from the start of manufacture up to and including their incorporation in the finished structure.

UNDERWRITERS' WINDOWS

All Truscon Standard Double-Hung Steel Windows meet Underwriters' specifications except for limiting unit sizes and glass sizes, and for wide glazing strip stops which are not required for ordinary use.

Underwriters' prescribed limits are:

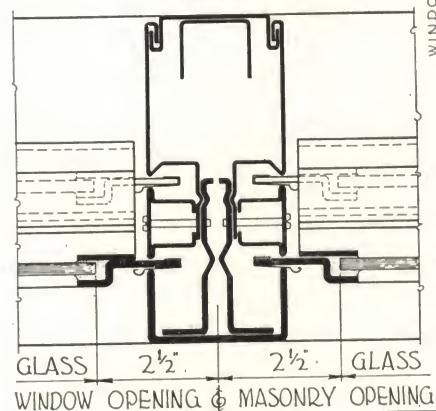
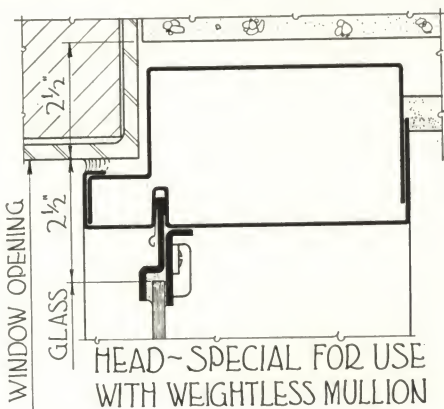
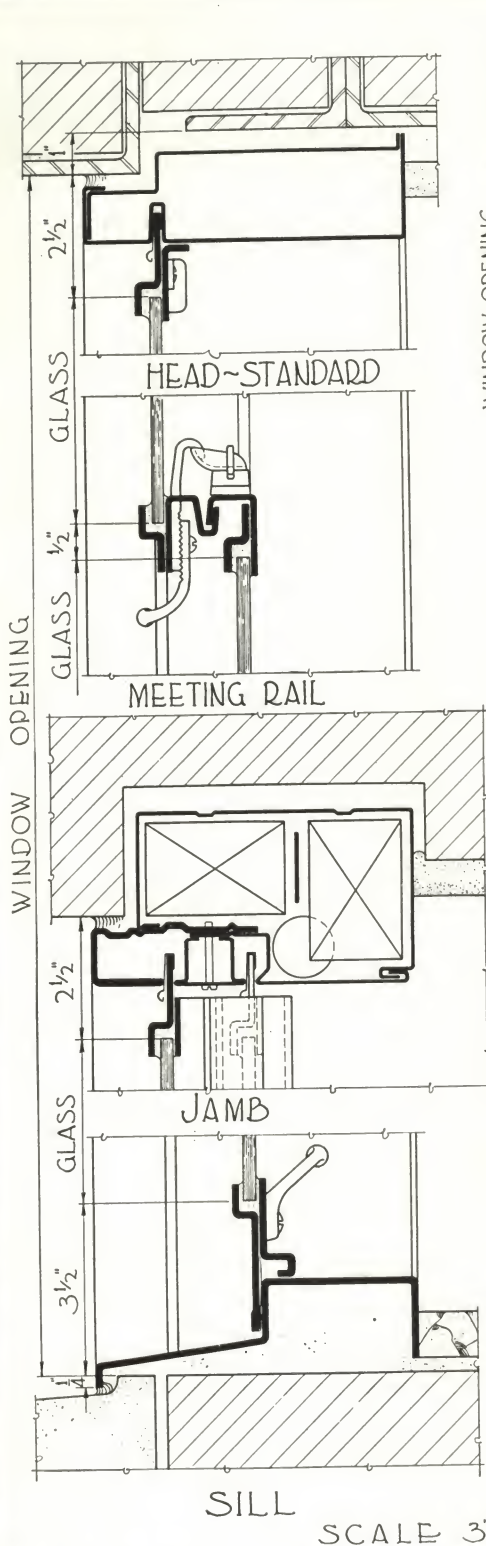
Unit Size: 6'0" width, 10'0" height.

Glass Size: 720 sq. in., exposed area. (Glass not less than 1/4" wire glass.)

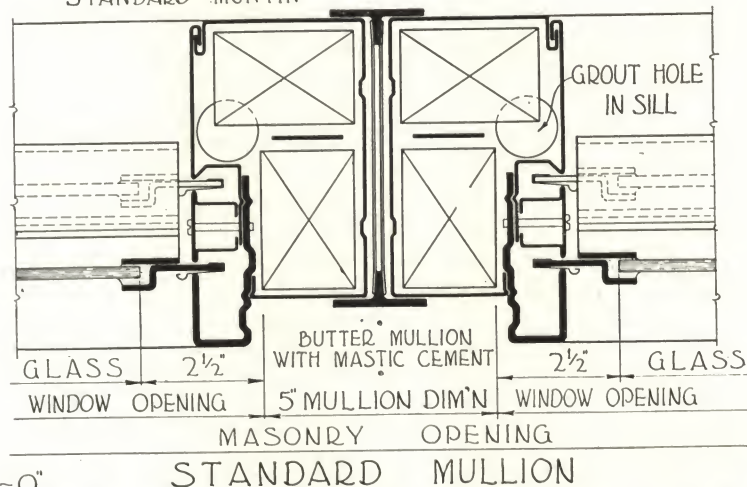
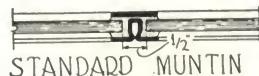
Muntins: 1 1/16" wide for glass up to 505 sq. in. in area; 1 1/8" wide for glass over 505 sq. in. to 720 sq. in.

Mullions: Units within limits may be combined with mullions in large bays.

Note: Refer to Page 6 for Types and sizes and Standard Details.



SPECIAL WEIGHTLESS TYPE MULLION



HEIGHTS	WINDOW 3'-6"	OPENING 4'-0"	WIDTHS 4'-6"	5'-0"
3'-0"	30-36	36-46	46-46	50-46
3'-6"	30-46	36-50	46-50	50-50
4'-0"	30-50	36-56	46-56	50-56
4'-6"	30-56	36-60	46-60	50-60
5'-0"	30-60	36-66	46-66	50-66
5'-6"	30-66	36-70	46-70	50-70
6'-0"	30-70	36-76	46-76	50-76
6'-6"	30-76	36-80	46-80	50-80
7'-0"	30-80	36-86	46-86	50-86
7'-6"	30-86	36-90	46-90	50-90
8'-0"	30-90	36-96	46-96	50-96
8'-6"	30-96	36-100	46-100	50-100
9'-0"	30-100	36-104	46-104	50-104

STANDARD TYPES

NOTE: WIDTH OF GLASS IN SINGLE LIGHT PLUS 5" GIVES MASONRY OPENING WIDTH.

HEIGHT OF GLASS SUM OF UPPER & LOWER SASH SINGLE LIGHT PLUS 6 1/2" GIVES MASONRY OPENING HEIGHT.

VERTICAL & HORIZONTAL MUNTIN BARS MAY BE USED BUT OVERALL DIMENSION MUST BE MAINTAINED. DEDUCT 1/2" FROM GLASS SIZE FOR EACH MUNTIN BAR.

WHEN WEIGHTLESS TYPE MULLIONS ARE USED THE CLEARANCE FOR THE HEAD SECTION IS 2 1/2" IN PLACE OF 1" REQUIRED FOR STANDARD.

TRUSCON
STEEL COMPANY
Youngstown, Ohio

TYPES AND SIZES — STANDARD DETAILS
DOUBLE-HUNG STEEL WINDOWS
MODEL Nos. 27 and 28

PLATE No.
W-11
OCTOBER, 1935

Note: This Detail Plate Covers Windows Described on Pages 4 and 5

TRUSCON STEEL COMPANY—YOUNGSTOWN—OHIO—U.S.A.

Peerless DOUBLE-HUNG WINDOWS

SERIES 33
Counterweighted

THE Peerless Double-Hung Steel Window, Series 33, combines a pleasing architectural design with maximum utility, durability, simplicity and economy. The tubular construction of the sash, frame members and combination jamb and weight well develops remarkable strength in the sections and at the same time imparts a proportion to them that makes the window thoroughly in harmony with requirements for monumental buildings. Muntins may be supplied, if desired, either for architectural treatment or when Underwriters' label of approval is required.

Positive weathering is provided by flexible spring bronze strips at jambs, head, sill and meeting rail. So accurately and effectively is the Peerless Window constructed that the air infiltration is reduced to a negligible quantity. In every respect, the Peerless Double-Hung Window is as fine as advanced design, quality materials and skilled workmanship can make it. Hardware is thoroughly in keeping with the high standards of the window.

CONSTRUCTION DETAILS

(Illustrated below)

(1) **Head**—Sturdy tubular construction.

(2) **Muntin Bars**—Of specially designed sections can be furnished if desired.

(3) **Sweep Lock**—Solid bronze.

(4) **Sill**—Made in one piece of steel, sloped to the outside to insure good drainage.

(5) **Lift Handles**—Solid bronze.

(6) **Jamb**—Made integral with the weight well; tubular construction imparts great strength.

(7) **Meeting Rail**—Meeting rail sections are of tubular design formed to interlock; weatherstripping assures minimum air infiltration.

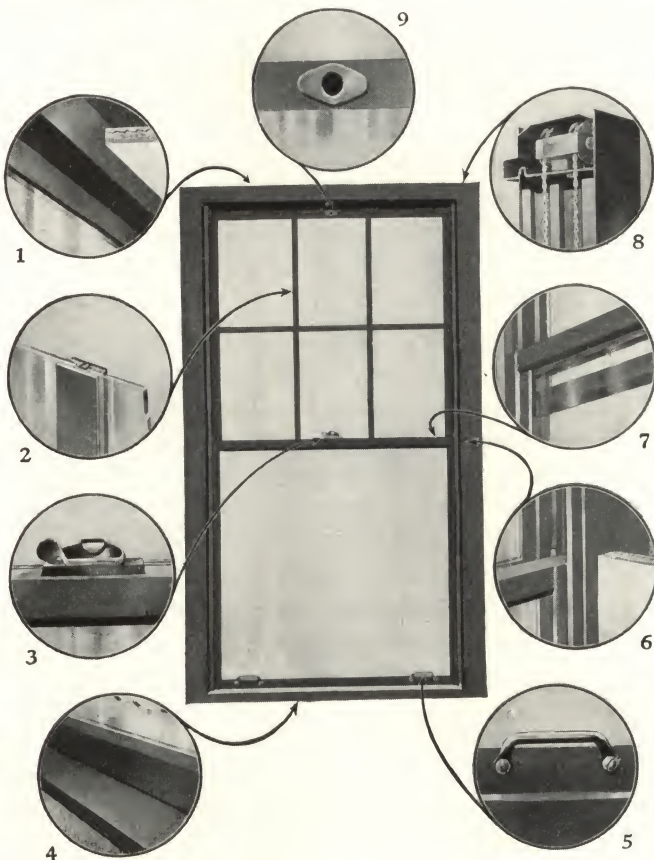
(8) **Counterweights**—Hung on galvanized chains running over iron pulleys having hard maple bearings, pressure-saturated with paraffin.

(9) **Pole Socket**—The tubular rail permits it to be recessed.

UNDERWRITERS' LABEL

Underwriters' label of approval may be specified for all standard sizes shown, provided glass lights do not exceed 505 square inches.

Refer to Page 9 for Standard Types and Sizes



FEATURES OF CONSTRUCTION

Tubular Sash Sections—Not only is the appearance of the window greatly improved by the tubular sections of the sash, but remarkable strength is obtained because of their shape. The top rail of the top sash and the bottom rail of the bottom sash are formed of one piece, having a $1\frac{1}{8}$ in. depth from front to back and $2\frac{1}{8}$ in. height. Both meeting rails are $1\frac{3}{4}$ in. from front to back by $1\frac{3}{8}$ in. high.

Jamb Stops—Removable for easy access to weight box.

Deep, Rigid Sill—Sill is made in one piece, having adequate depth and stiffness to prevent bowing, bending or leakage. All surfaces are flat, with no grooves.

Integral Jamb and Weight Well—The jamb and weight well are made in one piece, tubular in shape, thus eliminating many seams and joints and developing greater strength. The parting and inside stop strips also are formed in one integral piece.

Welded Corners and Frames—No solder, no rivets, no slot-and-tenon construction is used in this window. All corners are coped and lapped to their full depth, then securely welded.

Completely Weather Stripped—Spring bronze weatherstrips are attached to sash at head, meeting rails, jambs and sill. This insures positive weather-tightness, eliminates rattle and lowers air infiltration.

Minimum Air Infiltration—The windows are so carefully made that air infiltration has been reduced to not more than one-half cubic foot of air per minute per foot perimeter of sash when subjected to a 25 mile per hour wind velocity.

Quality Hardware—Standard hardware consists of solid bronze lift handles and meeting rail lock and cadmium plated steel pole socket. Malleable iron hardware, cadmium plated, will be furnished, if desired, at a slight reduction in cost. Sash chains ride on grey iron pulleys that have hard white maple bearings, running on $\frac{5}{16}$ -in. axles.

Simplified Glazing—In glazing the vents of the window, it is not necessary to remove the sash from the frame.

CONDENSED SPECIFICATIONS

(1) **General**—All window openings shown on the drawings, unless otherwise specified, shall be equipped with Peerless Double-Hung Steel Windows, Series 33 (Galvanized and weather stripped), as manufactured by the TRUSCON STEEL COMPANY of Youngstown, Ohio. No substitution shall be made without the written consent and approval of the architect.

(2) **Scope of Work**—The steel window manufacturer shall include in his work all Double-Hung Steel Windows, erected complete, and shall furnish and apply hardware and weights and make a final adjustment

of windows shown on drawings and covered in Specifications.

(3) **Material**—All windows throughout shall be constructed of Truscon Special hot-rolled, new billet steel, copper-bearing and galvanized; Sills shall be of 14-gauge; Jamb Frame (Weight Boxes) and Jamb Stops of 18-gauge; Rails and Stiles of Sash 18-gauge; Inside Glazing Strips of 13-gauge; Sash Stiles, Head Cover Plate, 24-gauge; Head Frame, 16-gauge.

(4) **Construction**—(a) *Frame Members*: The head frame shall be made up of two parts—the frame proper and the cover. The jamb frame and the weight box shall be made of one piece and shall have attached to it the jamb stop which shall also serve as an access panel to the weights. All members formed straight and true with welded joints.

(b) The *Jamb Stop* shall be removable to afford an exceptionally large opening for access to weights.

(c) *Sash Members*: Sash members shall be not less than $1\frac{1}{8}$ in. deep, front to back, and shall be so designed that the distance from masonry opening to glass lines at head will be $2\frac{5}{8}$ in. and at jambs $2\frac{1}{8}$ in. Corners of sash shall be welded.

(d) The *Meeting Rail* between upper and lower sash shall be formed so as to interlock.

(e) Where *Muntin Bars* are required, they shall butt against sash members and be so welded that wherever possible a flush surface is secured at intersections. A smooth outside and inside surface shall be maintained on all muntin bars.

(f) Convenient *Inside Glazing* shall be assured by the use of removable inside glazing strips at sides only. These glazing strips shall be secured with oval-head screws.

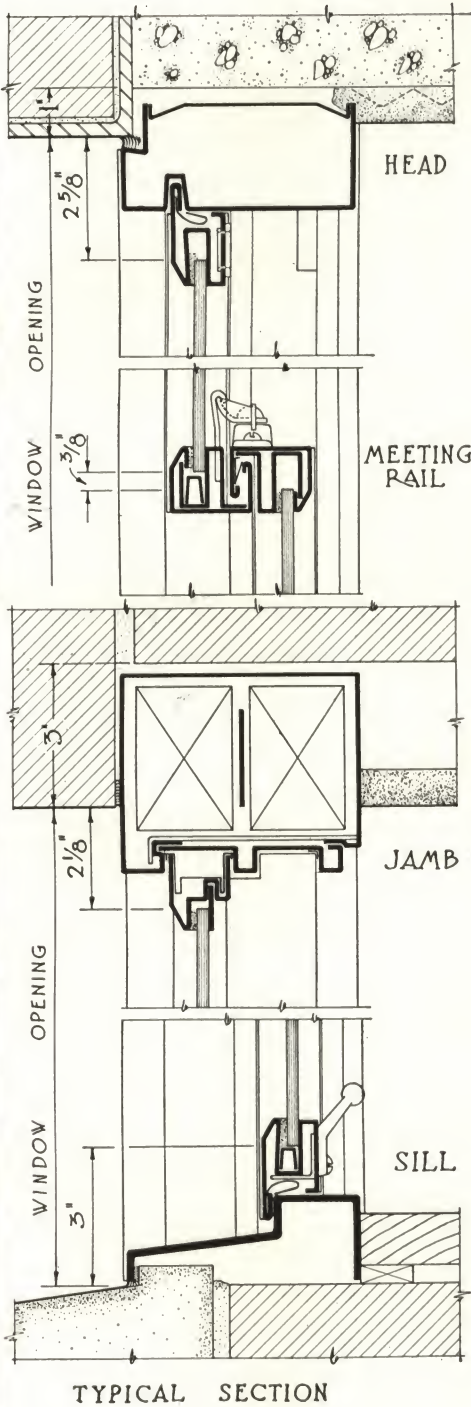
(5) **Weather Stripping**—Weather stripping shall be provided of spring bronze and applied at sill, jambs, meeting rail and head.

(6) **Hardware Equipment**—(a) Frames shall be equipped with grey iron pulleys having hard white maple bearings saturated in paraffin under steam pressure and running on $\frac{5}{16}$ -in. round, cold-rolled axles mounted in pressed steel housings. Sash shall be hung on No. 130 Galvanized Steel Sash Chains exposed and properly balanced with cast iron weights.

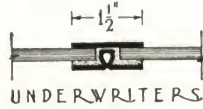
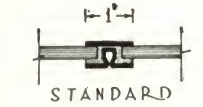
(b) Sash shall be equipped with one pair of solid bronze lift handles, solid bronze sweep lock, cadmium plated steel sweep lock strike, and one cadmium plated steel pole socket.

Note: Special steel or lead weights shall be supplied where cast iron weights are not sufficient to balance sash properly.

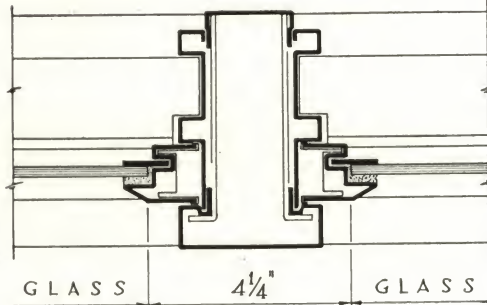
(7) **Painting**—All windows shall be given one coat of Truscon Protective paint after assembly and before shipment.



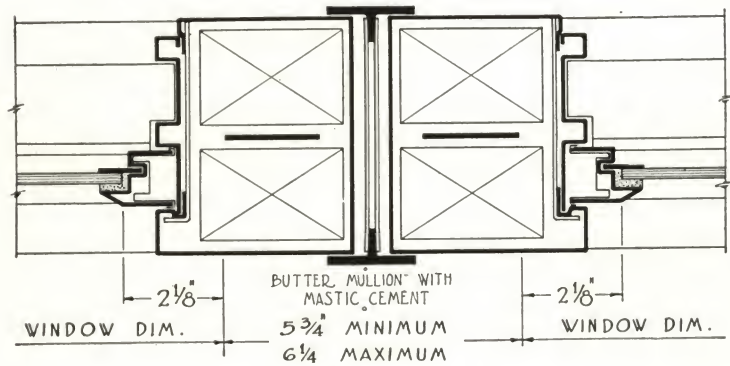
TYPICAL SECTION



MUNTIN
BAR
DETAILS



WEIGHTLESS
MULLION
WHEN THIS TYPE OF MULLION IS
USED THE DOUBLE-HUNG SASH
ARE BUILT IN ONE INTEGRAL FRAME.



STANDARD
MULLION

WINDOW	OPENING WIDTHS			
	3'-0"	4'-0"	4'-6"	5'-0"
HEIGHTS	3'-0"	3'-6"	4'-0"	4'-6"
OPENING	3046	3646	4046	4646
WINDOW	3050	3650	4050	4650
HEIGHTS	3056	3656	4056	4656
OPENING	3060	3660	4060	4660
WINDOW	3066	3666	4066	4666
HEIGHTS	3070	3670	4070	4670
OPENING	3076	3676	4076	4676
WINDOW	3080	3680	4080	4680
HEIGHTS	3086	3686	4086	4686
OPENING	3090	3690	4090	4690
WINDOW	3096	3696	4096	4696

STANDARD TYPES

NOTE: WIDTH OF GLASS IN SINGLE LITE PLUS 4 1/4" GIVES MASONRY OPENING, ALSO WINDOW WIDTH.
HEIGHT OF GLASS SUM OF UPPER & LOWER SASH SINGLE LITE PLUS 6" GIVES MASONRY OPENING HEIGHT, ALSO WINDOW HEIGHT.
VERTICAL & HORIZONTAL MUNTINS MAY BE USED BUT OVERALL DIMENSION MUST BE MAINTAINED.
DEDUCT 1/2" FROM GLASS SIZE FOR EACH MUNTIN BAR.

TRUSCON
STEEL COMPANY
Youngstown, Ohio

TYPES AND SIZES — STANDARD DETAILS
Peerless DOUBLE-HUNG STEEL WINDOW

PLATE No.
WW-9
OCTOBER, 1935

Note: This Detail Plate Covers Windows Described on Pages 7 and 8

TRUSCON STEEL COMPANY—YOUNGSTOWN—OHIO—U.S.A.

DONOVAN AWNING TYPE WINDOWS

MODEL No. 29

DAYLIGHT illumination without sun glare, and natural ventilation without draughts are provided for schools, hospitals, offices, hotels, apartments and public buildings by Donovan Awning Type Windows. They are made of high quality steel and are superior in design, construction, workmanship and operation. Their moderate cost makes them practical for any building.

Simple, substantial and pleasing in appearance, the Donovan Window details have been carefully worked out to make possible the practical application of the latest and best principles of perfect ventilation and correct lighting.

Correct ventilation is assured because all ventilators open in unison and the air is deflected upward into the room. Human inclination to follow least resistance and to open the lower ventilator only of other windows at subsequent loss of ventilation is here stopped. While all ventilators do and should open together under normal weather conditions, for inclement weather the lower ventilators may be opened or closed independently of the upper ventilators by merely disengaging the clutch.

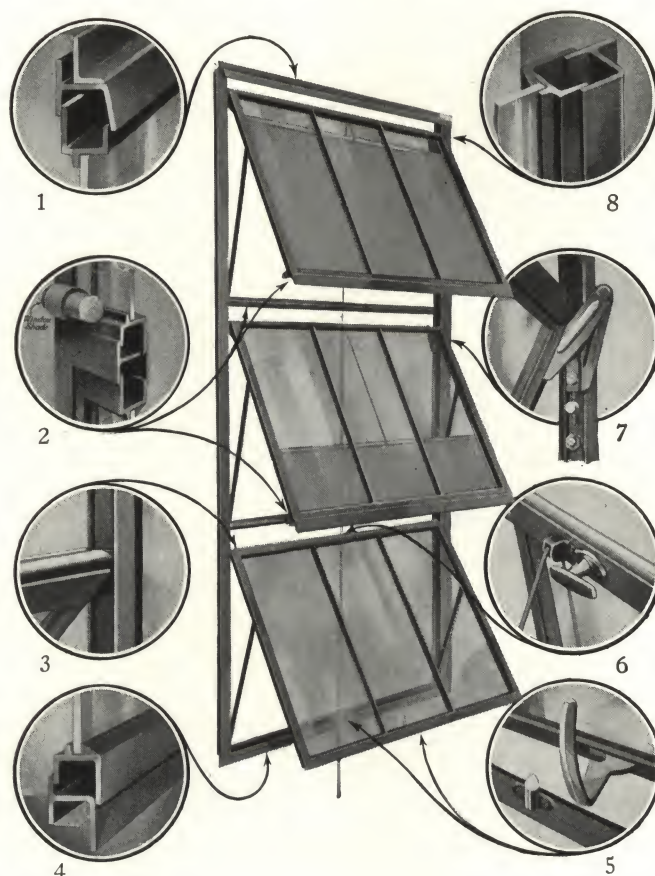
Correct daylight illumination is assured by the arrangement of window-shades. Shades are attached to the bottom rail of each ventilator instead of at the head of the window as is standard practice for other types of windows. The shade rolls *down* when not in use. When ventilators are open and the shades are raised, direct glare is eliminated and light is reflected and diffused throughout the room. Tests show that with this arrangement the side of the room away from the windows is brighter than if no shades were used or if conventional shading were employed.

Donovan Windows are easily cleaned from the inside with safety and economy, and cost no more than common types. Their perfected form is the outcome of long experience, often making possible a saving of from ten to fifteen per cent in building costs by removing the necessity of expensive plenum systems.

Heavy solid bronze finishing hardware is included in the construction of these windows.

CONSTRUCTION DETAILS

(1) **The Head Construction**—Utilizes a heavy Tee section as a bearing against which the top ventilator makes a contact that is positive and weather-tight. An angle welded to the Tee bar



provides an anchorage fin that insures a tight installation at the lintel.

(2) **The Meeting Rails**—Are Tee sections, which in combination with the drip strip, provide a two-point flat contact bearing for the rails of the ventilators. Note that the shade bracket is placed close to the ventilator to prevent infiltration of light.

(3) **The Bottom Ventilator Pivots**—Are ruggedly constructed. When the bottom ventilator is released from the others by use of the clutch the pivot pins are retracted and the bottom ventilator is guided by shoes, as shown. Spring pressure snaps the pins back into position for regular operation.

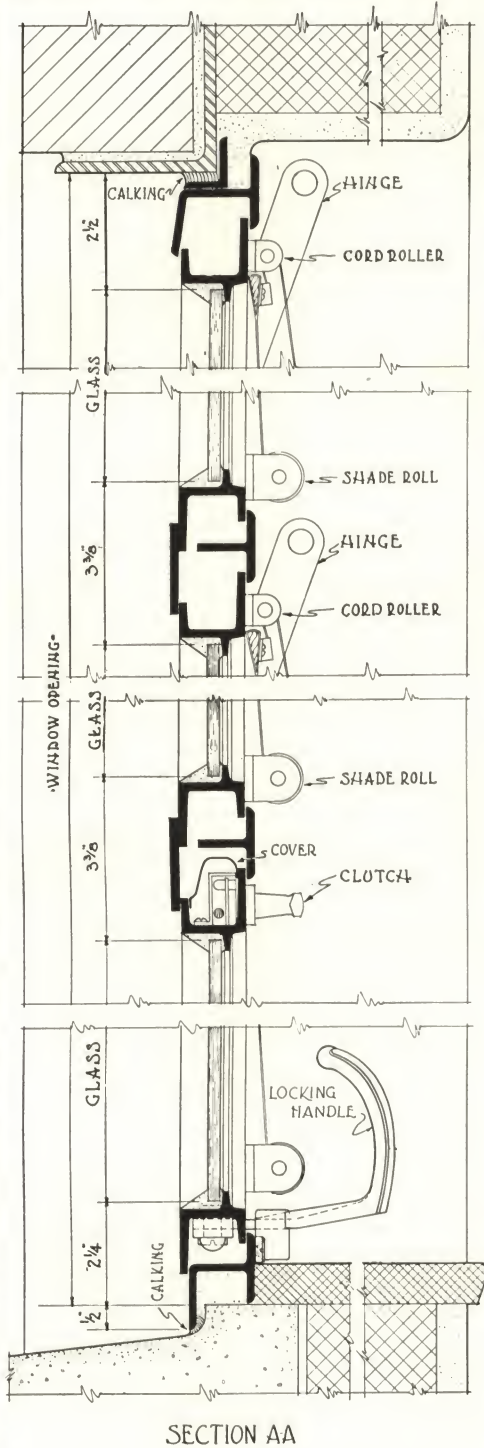
(4) **The Sill**—Also utilizes two-point flat contact construction to assure weather-tightness, and in addition, the longest leg of the sill member is placed on the outside to make weather-tight contact with the masonry.

(5) **The Locking Handle and Strike**—Permit the window to be locked by a simple inward pull with locking action. Handle is adjustable. The handle is shaped and placed so that the knuckles of the operator cannot be scraped on the sill. This handle provides complete operation of all superposed vents.

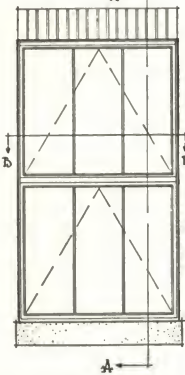
(6) **The Releasing Clutch**—Disconnects the bottom ventilator from the others, allowing the lower ventilator to be operated independently from the balance of ventilators.

(7) **The Upper Ventilator Hinges**—Are fastened to the connecting bars by screws and to the ventilators by welds. The tightness of the ventilators can be increased or relieved by moving these hinges up or down on the bars. The adjustment is easily made with a screwdriver.

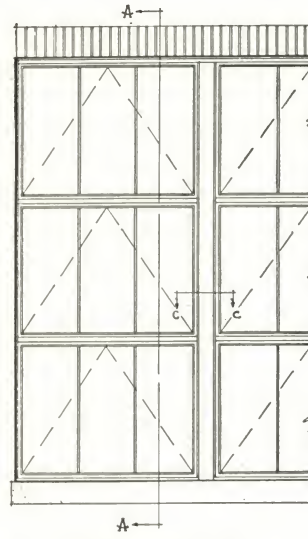
(8) **The Jamb**—Also utilize the two-point flat contact weathering system, the same Tee section being used here as at the head and sill, providing exceptionally fine contact with masonry or mullions.



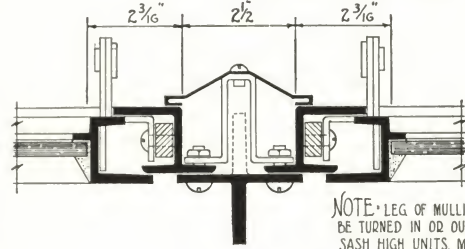
SECTION AA



ELEVATION - SINGLE UNIT



TYPICAL ELEVATION
DIMENSIONS ON TYPES
ARE WINDOW OPENINGS

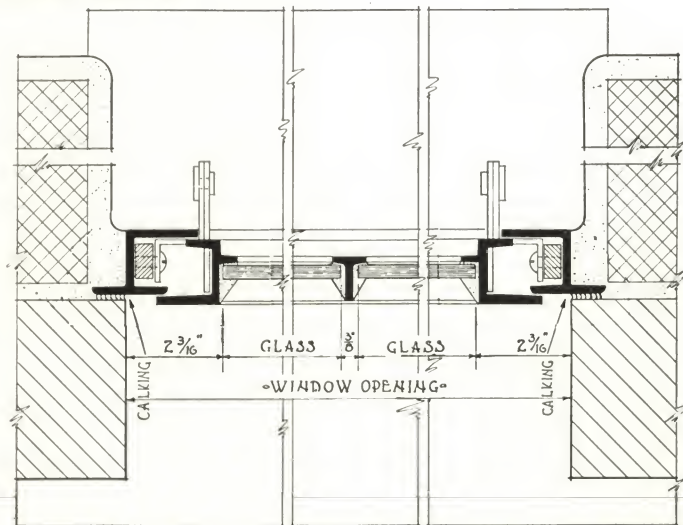


SECTION CC

STANDARD TYPES

	7'6"	3'3"	3'6"	3'9"	4'-0"
5'-0"	2650	3350	3650	3950	4050
5'-6"	2656	3356	3656	3956	4056
6'-0"	2660	3360	3660	3960	4060
6'-6"	2666	3366	3666	3966	4066
7'-5 1/2"	2676	3376	3676	3976	4076
8'-2 1/2"	2683	3383	3683	3983	4083
8'-11 1/2"	2690	3390	3690	3990	4090

NOTE: LEG. OF MULLION CAN
BE TURNED IN OR OUT ON 2
SASH HIGH UNITS. MUST BE
OUT TURNED ON ALL 3 SASH
HIGH UNITS.

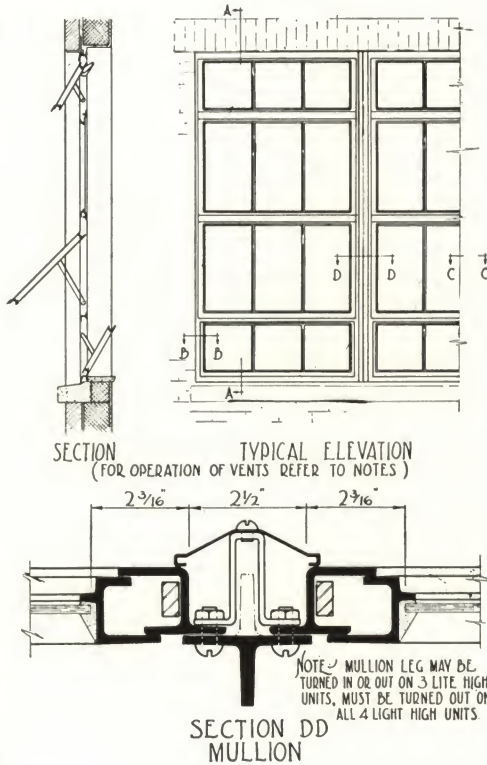
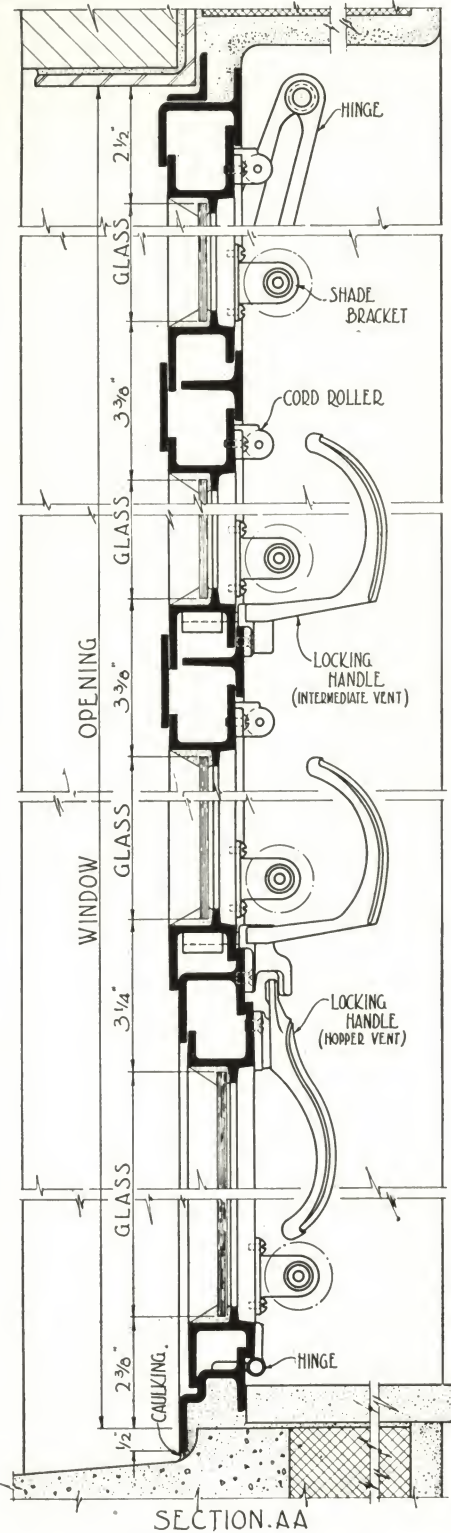


SECTION BB

TRUSCON
STEEL COMPANY
Youngstown, Ohio

TYPES AND SIZES — STANDARD DETAILS
DONOVAN AWNING TYPE STEEL WINDOWS

PLATE No.
P-8
OCTOBER, 1935

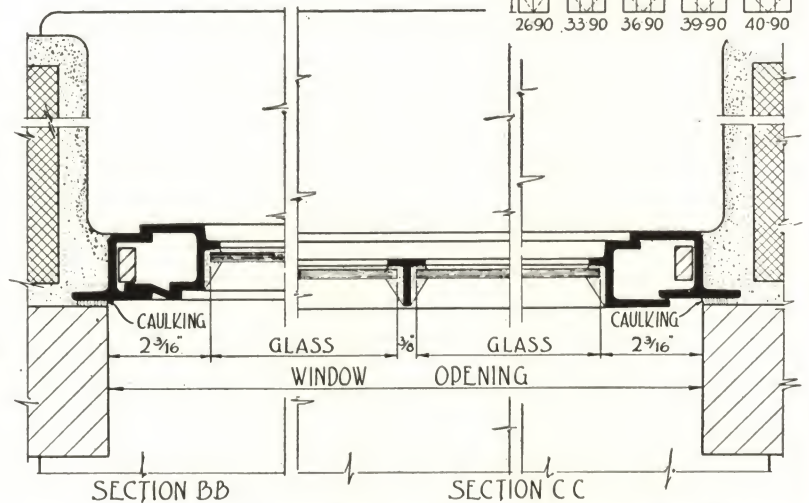


NOTES:

THE HOPPER AND TRANSOM VENTS ARE CONNECTED BY A CONCEALED OPERATING BAR. OPERATION OF THE TRANSOM VENT IS SIMULTANEOUS WITH AND IN DIRECT RELATION TO THE OPERATION OF THE HOPPER VENT.
THE INTERMEDIATE VENTS OPERATE INDEPENDENTLY OF THE TRANSOM AND HOPPER VENTS, AND OF EACH OTHER.

STANDARD TYPES AND SIZES

	2'-6"	3'-3"	3'-6"	3'-9"	4'-0"
5'-0"	2650	3350	3650	3950	4050
5'-6"	2656	3356	3656	3956	4056
6'-0"	2660	3360	3660	3960	4060
6'-6"	2666	3366	3666	3966	4066
7'-0"	2670	3370	3670	3970	4070
7'-6"	2676	3376	3676	3976	4076
8'-0"	2680	3380	3680	3980	4080
8'-6"	2686	3386	3686	3986	4086
9'-0"	2690	3390	3690	3990	4090



TRUSCON
STEEL COMPANY
Youngstown, Ohio

TYPES AND SIZES—STANDARD DETAILS
DONOVAN AWNING TYPE STEEL WINDOWS
MODEL 15

PLATE No.
P-7
NOVEMBER, 1935

RESIDENCE CASEMENTS

THRUSCON Casements are modern windows of inherent beauty, architectural harmony, simplicity, fine quality and superior craftsmanship. Constant effort toward their improvement has resulted in many changes—the sections are of better design, the hardware is artistic, the weathering is positive and screening has been developed so that the complete casement presents a degree of refinement. Storm windows are available for use in rigorous climates or for air-conditioning.

Single and combination casements in a large range of sizes, with or without sill ventilators or transoms, permit a selection of the exact types to meet individual requirements.

CONSTRUCTION DETAILS

(1) **Transom Bar Section**—Showing shape and position when used in a unit having fixed transom and side lights.

(2) **Swing Leaf Head Section and Transom Bar**—Specially designed transom section with drip as an integral part, affording protection to swing leaf below. Continuous from jamb to jamb.

(3) **Interior Supporting Member for Swing Leaf**—Heavy tee section forming jamb for swing leaf, with double contact weathering and insulating air space.

(4) **Corners of Frame and Swing Leaf**—Corners of swing leaf and frame are mitered, electrically butt welded and ground smooth.

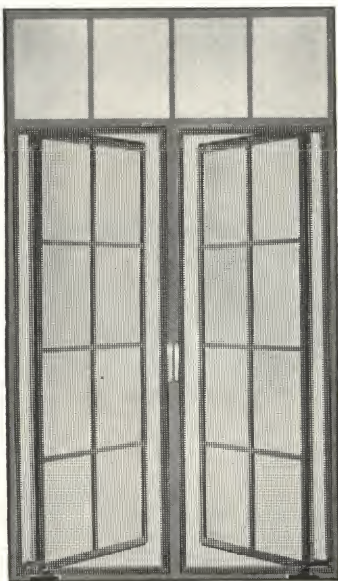
(5) **Friction Type Extension Hinge**—Allows for easy cleaning of windows from inside and, when adjusted, has the proper amount of friction to hold swing leaf in any desired position. No subsequent adjusting required.

(6) **Sill Section of Zee Bars**—Affording ease for erection in any type of construction; showing wide double contact weathering.

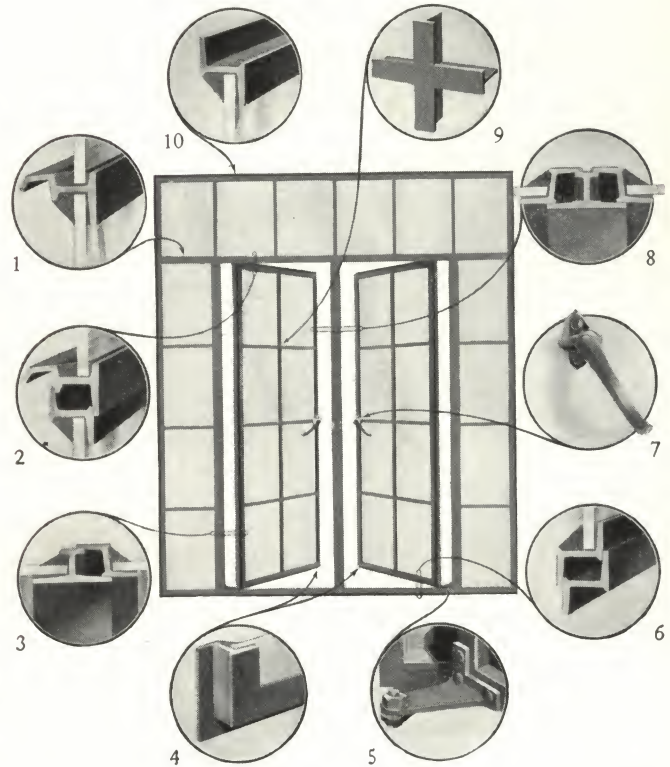
(7) **Artistic Handle**—Standard handle with a neat black lacquer finish. Also furnished in chromium, Butler nickel or solid bronze.

(8) **Vertical Meeting Rail**—Showing the specially designed heavy hot-rolled section as used in combination units for meeting rail. Provides maximum weathering, insulating air space, and rigidity.

(9) **Muntin Intersections**—Made with a mitered and mechanically interlocked joint obtaining the maximum strength of



SERIES 5



muntin bars and securing a neat, flush surface on the inside. Vertical and horizontal muntins are of the same size affording a uniform putty face and permitting a satisfactory glazed installation.

(10) **Zee Bar Sections**—Used for outside frame members of all combinations and for stiles and rails of swing leaves.

UNDERWRITERS' LABEL

Underwriters' label of approval may be specified for all standard sizes shown outside putty glazed, provided glass lights do not exceed 125 square inches.

SPECIFICATIONS

(1) **General**—All window openings shown on drawings, unless otherwise specified, shall be fitted with Residence Casements, Series 5, as manufactured by the TRUSCON STEEL COMPANY of Youngstown, Ohio. No substitution will be permitted without the written approval of the architect.

(2) **Scope of Work**—This contractor shall include in his work the furnishing of all steel casements complete, the adjusting after erection but before glazing, and the attaching of hardware, all as called for on drawings and specified herein. This contractor shall also furnish the necessary mastic as called for in the manufacturer's standards.

(3) **Work and Material Not Included**—Glass, putty, glazing, field painting and caulking are not included in this contract.

(4) **Material**—Truscon specification, low carbon new billet, hot-rolled steel, shall be used in the manufacture of all members.

(5) **Construction**—(a) All casements and standard combinations shall be manufactured in complete units at factory. The nominal glass size shall be 8x12 in.

(b) All frames, stiles and rail members of swing leaves shall be Zee bars. All corners shall be mitered and electrically butt welded. Exposed faces at welds shall be ground smooth.

(c) All muntins shall be Tee Bars with a $\frac{5}{8}$ in. face and a depth of $\frac{7}{8}$ in., and shall be continuous between rails and stiles. At intersections there shall be a mechanical joint rigidly interlocking the muntins flush with face on the inside.

(Continued on page 14)

(d) Joints of muntins with frames, stiles and rails shall be tenoned, mortised and air hammer riveted. Horizontal muntins shall be punched for glazing clips.

(e) Windows shall be hinged to swing right or left as indicated. Continuous double contact weathering between swing leaves and frame shall be provided.

(f) All side hung swing leaves shall open outward and be equipped with heavy extension (cleaning) hinges securely riveted to rails of swing leaves and electrically welded or riveted to frames.

(g) Transom ventilators shall be hinged at the top to open out and shall be equipped with close-up friction hinges.

(h) Sill ventilators shall be bottom hinged to open in and shall be equipped with steel butt hinges. All sill ventilators shall be prepared to receive standard fixed type screens applied to the outside. No special screen hardware necessary.

(i) Hinges shall be of the special Truscon friction type, designed to hold window open in any desired position.

(j) Where combinations of standard units are required for any single opening, vertical and horizontal mullions shall be used to join them.

(k) A continuous drip shall be provided on transom bars of all standard swing leaf combinations, or at the head when the ventilator extends full height of the opening.

(l) All units shall be drilled to receive standard shade bracket hardware.

(6) **Hardware**—(a) All hardware shall be shipped unattached and packed separately to prevent damage and shall be applied after erection and painting.

NON-SCREEN TYPE

(b) The cam action locking handle shall be of standard design furnished in black lacquer finish, and shall be attached to swing leaves (side hung). Beveled brass strike plate shall be attached to frame (see note).

(c) Standard push bars in black lacquer finish shall be furnished for all top hung transom units.

(d) Concealed friction adjusters shall be provided for all sill ventilators; two adjusters per ventilator.

SCREEN TYPE

(e) Screen type hardware shall be fully automatic and positive and shall control the swing leaf independently of the screen.

(f) Standard screen type hardware shall consist of either Autolock or Artex Underscreen Operator and concealed latch locking handle. Autolock Operator shall have a black finish case and Old English Bronze finish bar. Artex Operator shall have a black finish case and Old English Bronze finish handle. Concealed latch locking handle shall have Old English Bronze finish. Worm drive type operator can be furnished if desired.

Autolock Operator permits the use of either side hinged or fixed screen. Only a fixed type screen can be used with Artex Operator and the worm drive operator.

(7) **Painting**—Casements shall be given one prime coat of steel grey mineral paint at factory before shipment.

(8) **Glazing**—All casements shall be glazed on the outside. Glass shall be held in place by Truscon copper clad, spring steel wire glazing clips. All glass shall be bed and face puttied with Truscon special casement window putty.

(9) **Erection**—(a) Each unit shall be set plumb and true, aligned after installation and adjusted before glazing.

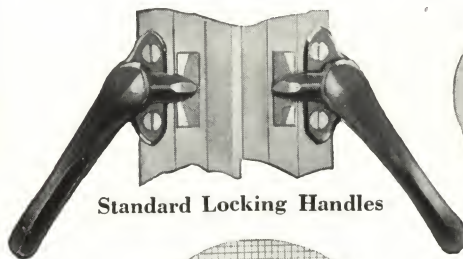
(b) Mastic in sufficient quantity shall be used in setting and bedding frames where they come in contact with mullions or wall construction.

(When so desired, the Erection Division of TRUSCON STEEL COMPANY will contract for the erection and adjusting of all casements in prepared openings.)

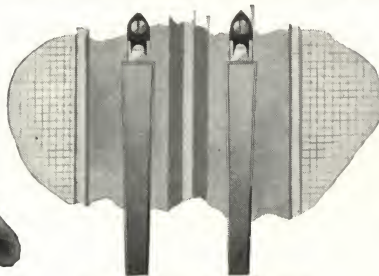
Notes: Muntin bars may be omitted for use of leaded glass of any pattern, or for single lights. Glazing clips and mastic are furnished and shipped with casements without additional charge.

Cam locking handles and worm and gear operators, can be furnished in solid bronze, Old English, Butler Nickel or Chromium finish at an additional cost, Architect to specify finish.

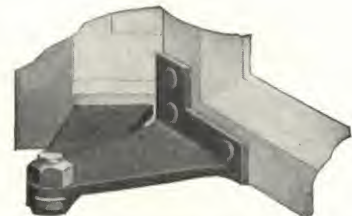
HARDWARE FOR RESIDENCE CASEMENTS—SERIES 5



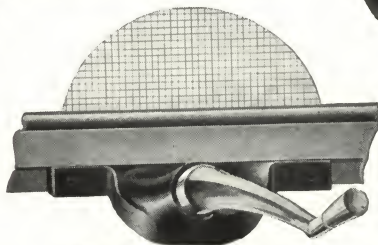
Standard Locking Handles



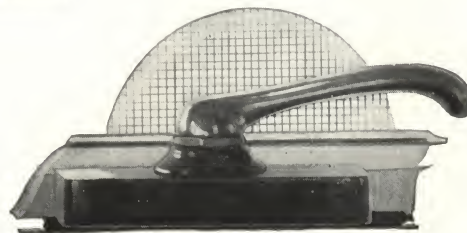
Screen Type Locking Handles



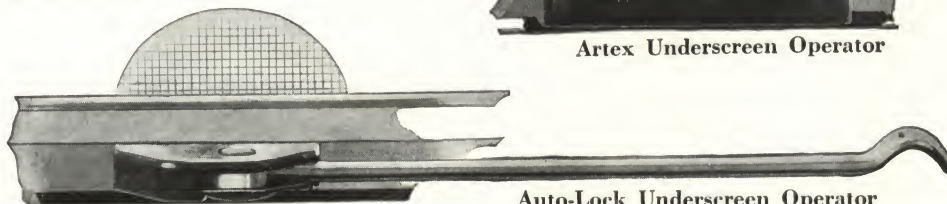
Extension Hinge



Worm Drive Operator



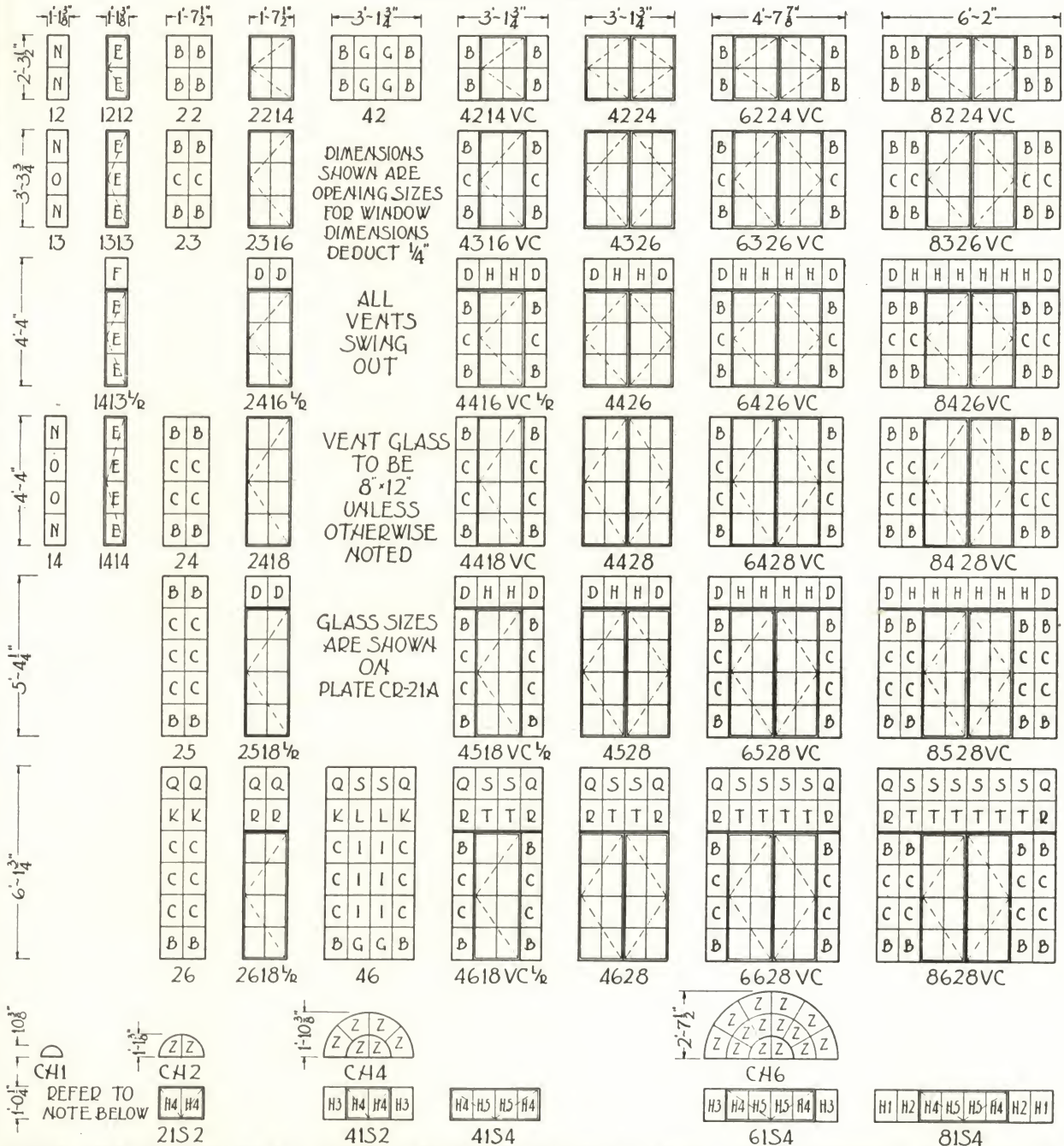
Artex Underscreen Operator



Auto-Lock Underscreen Operator

STANDARD UNITS

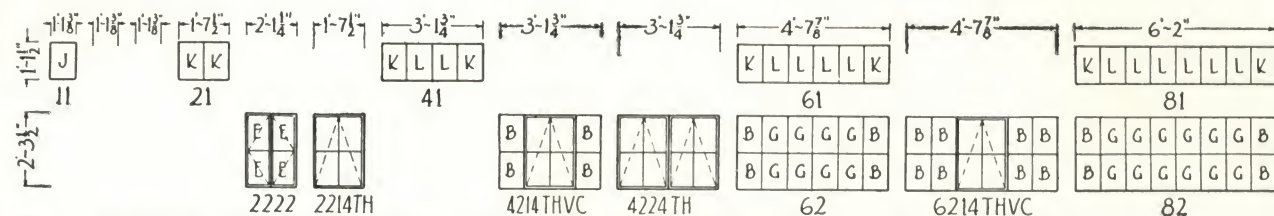
CARRIED IN STOCK



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Youngstown, Ohio

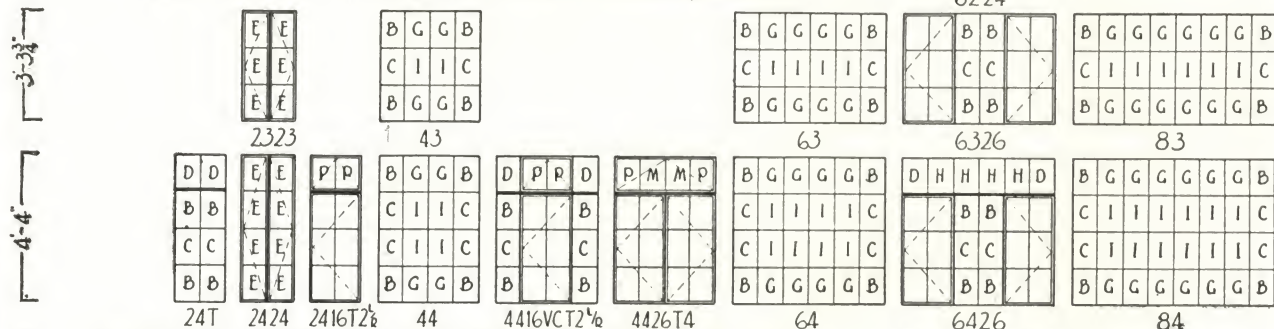
TYPES AND SIZES
RESIDENCE CASEMENTS
SERIES 5

PLATE No.
CR-21
SEPTEMBER, 1934

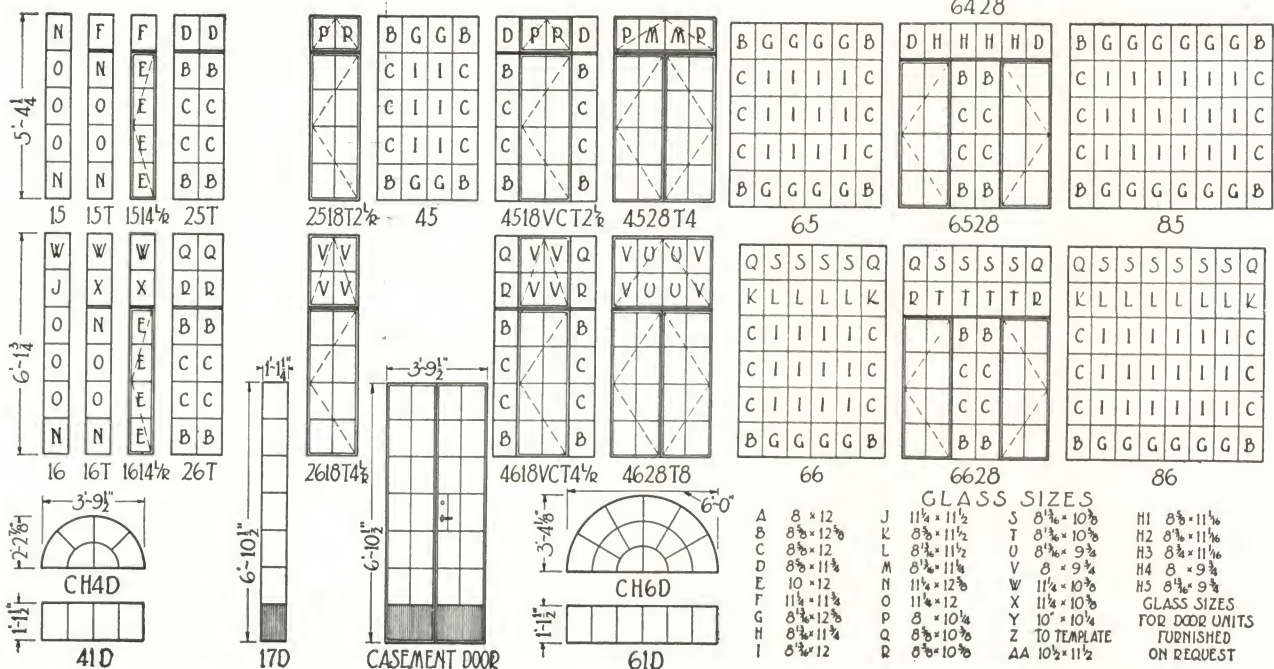


DIMENSIONS SHOWN ARE OPENING SIZES FOR WINDOW DIMENSIONS
DEDUCT $\frac{1}{4}$ " ALL VENTS SWING OUT VENT GLASS TO BE 8" x 12"
UNLESS OTHERWISE NOTED.

NOTE SPECIAL WIDTH DIMENSION FOR UNITS 2222, 2323 & 2424 ONLY.



HANDING OF CASEMENTS IS DETERMINED BY LOCATION OF HINGE
VIEWED FROM OUTSIDE ALWAYS SPECIFY WHETHER VENTS ARE
RIGHT OR LEFT HAND UNITS ARE REVERSIBLE FOR EITHER
L OR R HAND, EXCEPT UNITS HAVING TRANSOMS OR THOSE MARKED
L OR R OR WHEN SCREEN HARDWARE IS USED.



GLASS SIZES

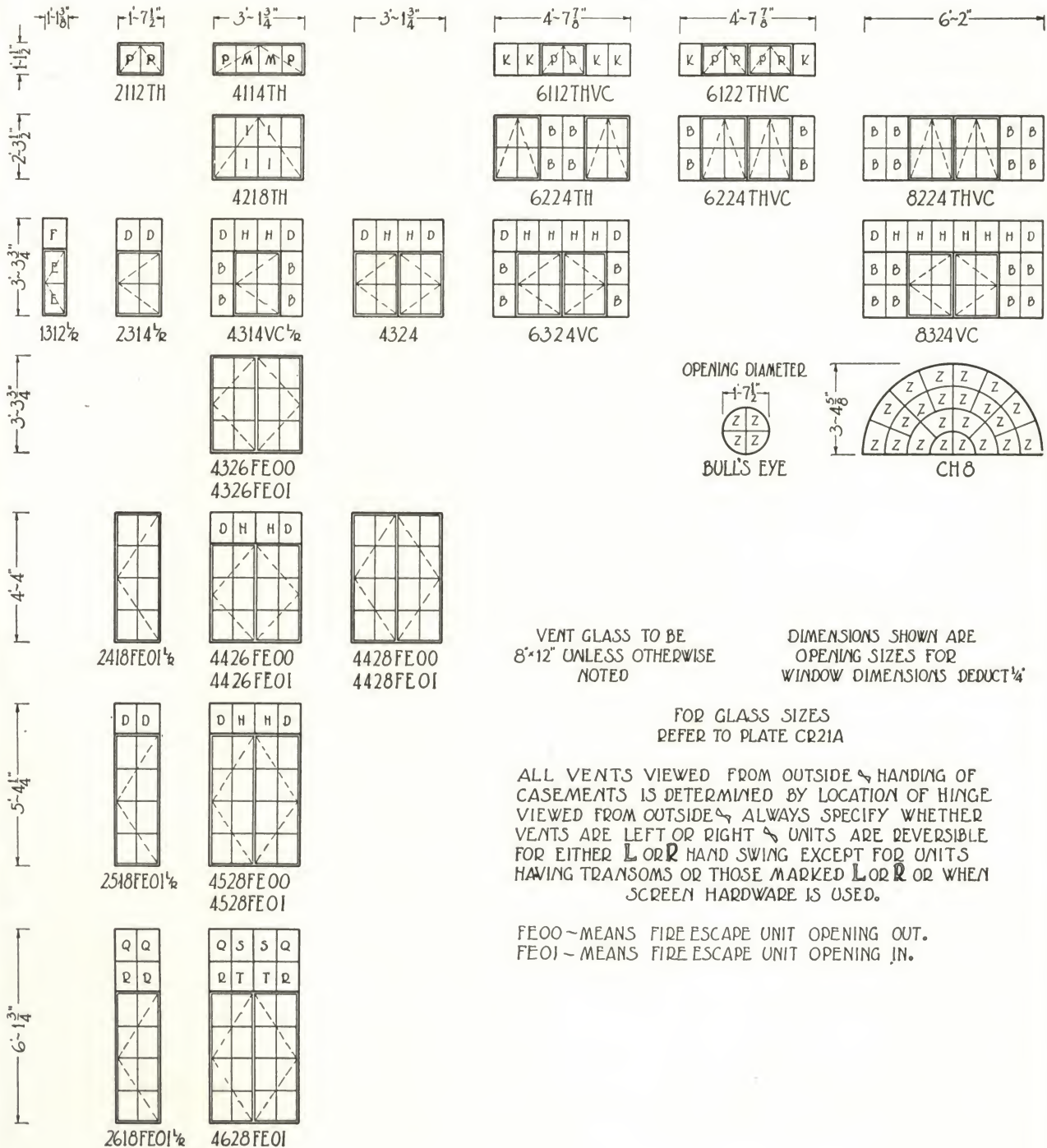
A	8 x 12	J	11 1/2 x 11 1/2	S	8 3/8 x 10 3/8	H1	8 3/8 x 11 3/8
B	8 3/8 x 12 3/8	K	8 3/8 x 11 1/2	T	8 3/8 x 10 3/8	H2	8 3/8 x 11 3/8
C	8 3/8 x 12	L	8 3/8 x 11 1/2	U	8 3/8 x 9 3/8	H3	8 3/8 x 11 3/8
D	8 3/8 x 11 3/8	M	8 3/8 x 11 1/2	V	8 x 9 3/8	H4	8 x 9 3/8
E	10 x 12	N	11 1/2 x 12 3/8	W	11 1/2 x 10 3/8	H5	8 3/8 x 9 3/8
F	11 1/2 x 11 3/8	O	11 1/2 x 12	X	11 1/2 x 10 3/8	GLASS SIZES FOR DOUBLE UNITS FURNISHED ON REQUEST	
G	8 3/8 x 12 3/8	P	8 x 10 3/8	Y	10 x 10 3/8		
H	8 3/8 x 11 3/8	Q	8 3/8 x 10 3/8	Z	TO TEMPLATE		
I	8 3/8 x 12	R	8 3/8 x 10 3/8	AA	10 3/8 x 11 1/2		

TRUSCON
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Youngstown, Ohio

TYPES AND SIZES
RESIDENCE CASEMENTS
SERIES 5

PLATE No.
CR-21A
OCTOBER, 1935

MADE ON ORDER



VENT GLASS TO BE
8"x12" UNLESS OTHERWISE
NOTED

DIMENSIONS SHOWN ARE
OPENING SIZES FOR
WINDOW DIMENSIONS DEDUCT 1/4"

FOR GLASS SIZES
REFER TO PLATE CR21A

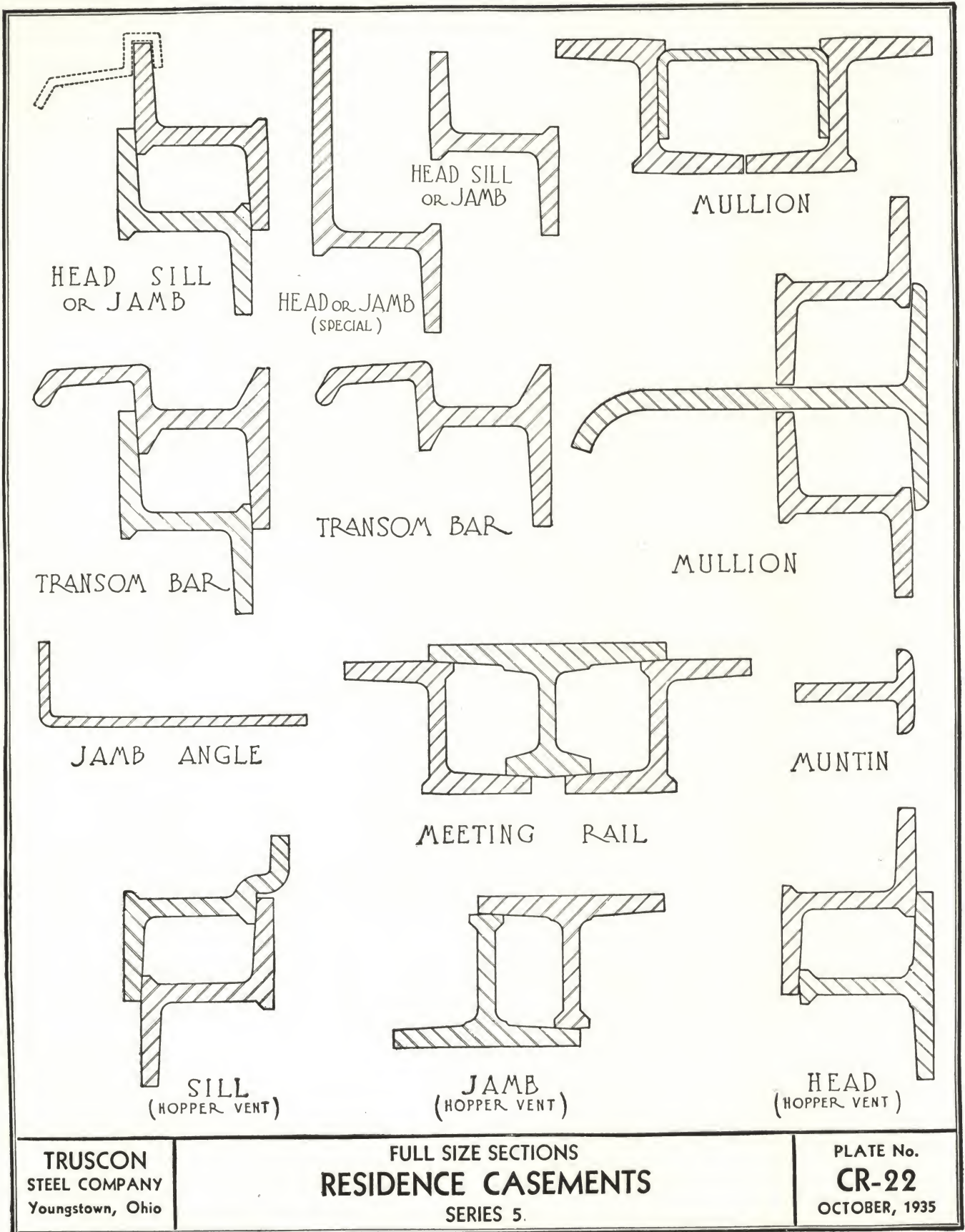
ALL VENTS VIEWED FROM OUTSIDE & HANDING OF
CASEMENTS IS DETERMINED BY LOCATION OF HINGE
VIEWED FROM OUTSIDE & ALWAYS SPECIFY WHETHER
VENTS ARE LEFT OR RIGHT & UNITS ARE REVERSIBLE
FOR EITHER L OR R HAND SWING EXCEPT FOR UNITS
HAVING TRANSOMS OR THOSE MARKED L OR R OR WHEN
SCREEN HARDWARE IS USED.

FEOO~MEANS FIRE ESCAPE UNIT OPENING OUT.
FEOI~MEANS FIRE ESCAPE UNIT OPENING IN.

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Youngstown, Ohio

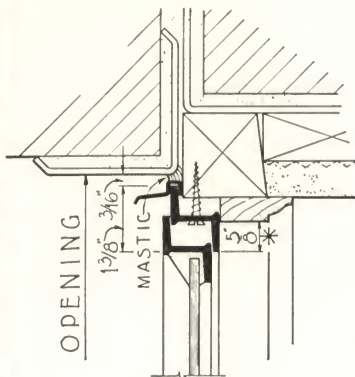
TYPES AND SIZES
RESIDENCE CASEMENTS
SERIES 5

PLATE No.
CR-21C
OCTOBER, 1934



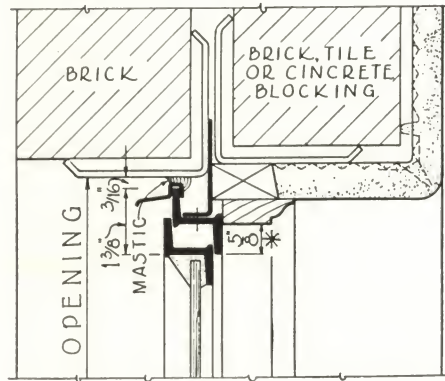
SOLID MASONRY CONSTRUCTION

WOOD BUCK



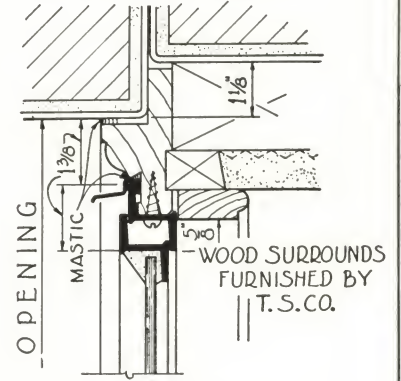
HEAD

CONTINUOUS ANGLE

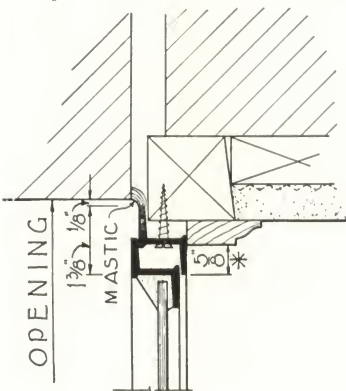


HEAD

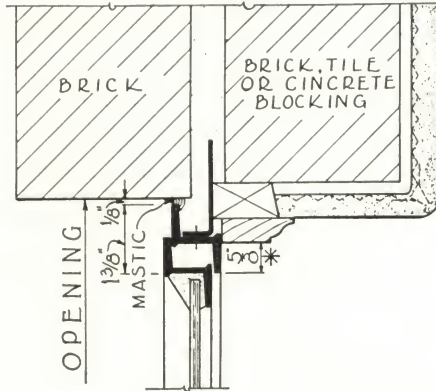
WOOD SURROUND



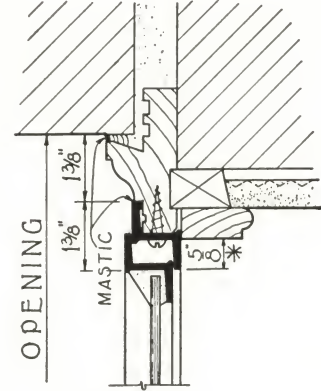
HEAD



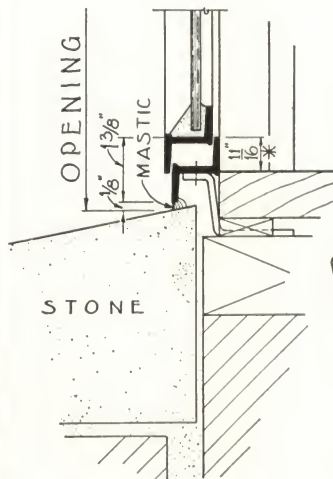
JAMB



JAMB

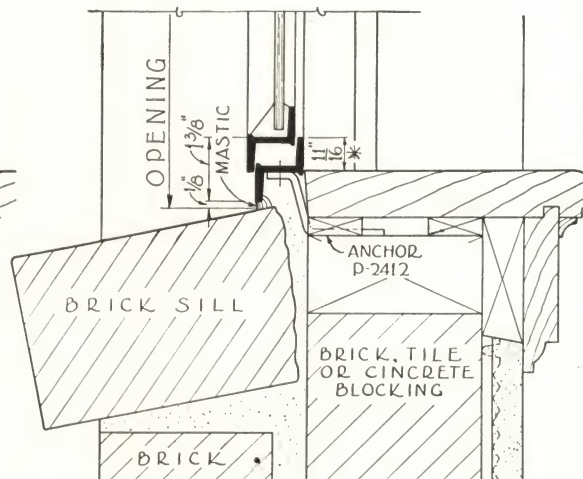


JAMB

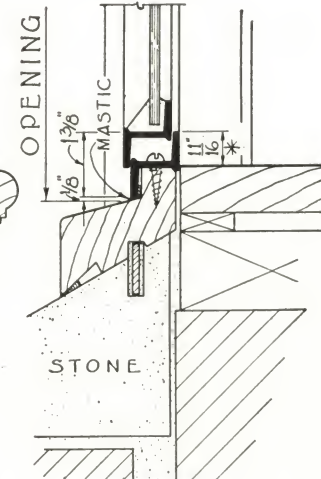


STONE

SILL



SILL



STONE

SILL

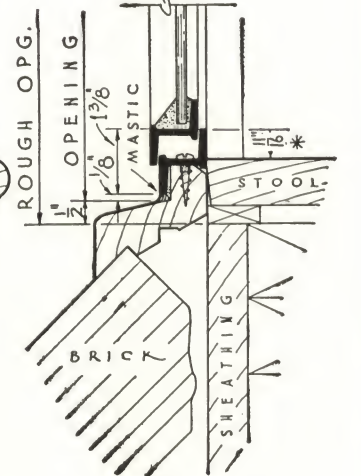
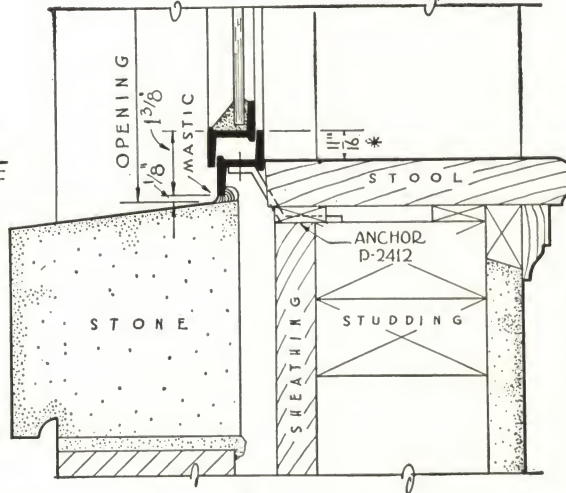
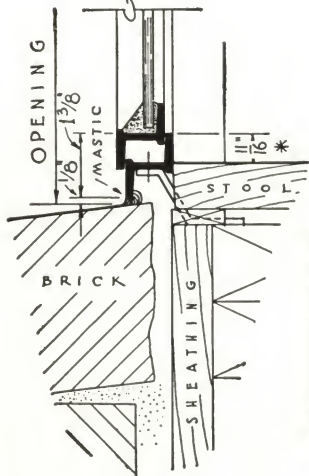
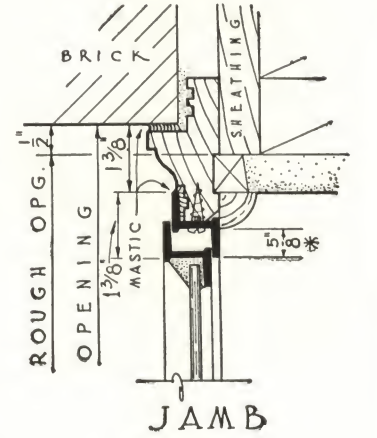
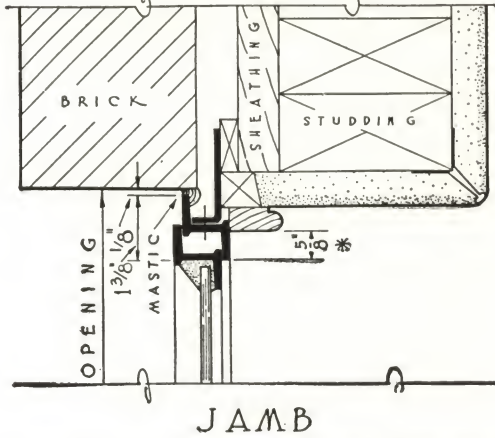
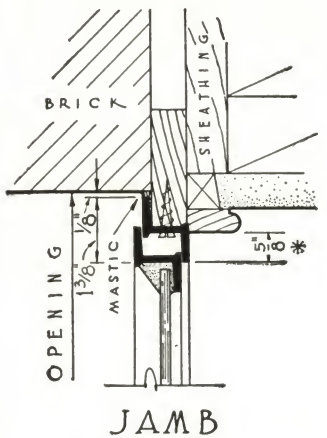
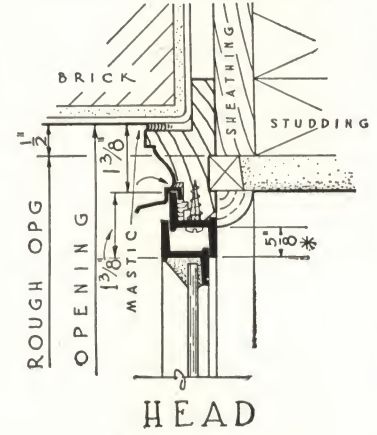
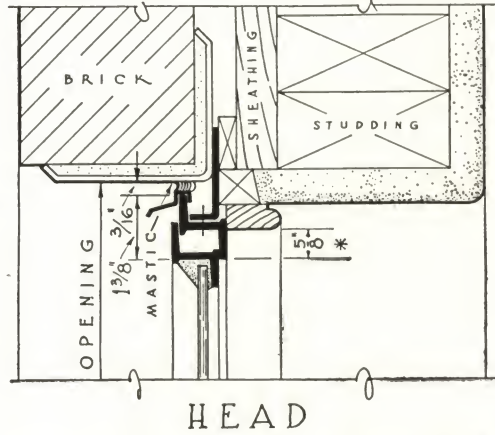
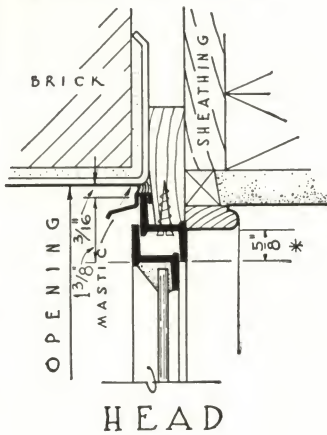
*~CLEARANCE REQUIRED FOR APPLICATION OF ANY "TRUSCON" SCREEN COMBINATION

TRUSCON
STEEL COMPANY
Youngstown, Ohio

SOLID MASONRY CONSTRUCTION DETAILS
RESIDENCE CASEMENTS
SERIES 5

PLATE No.
CR-23
OCTOBER, 1935

BRICK VENEER CONSTRUCTION
WOOD BUCK CONTINUOUS ANGLE WOOD SURROUND



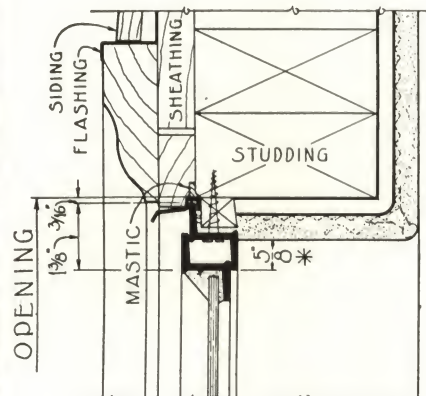
* CLEARANCE REQUIRED FOR APPLICATION OF ANY 'TRUSCON' SCREEN COMBINATION.

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STEEL COMPANY
Youngstown, Ohio

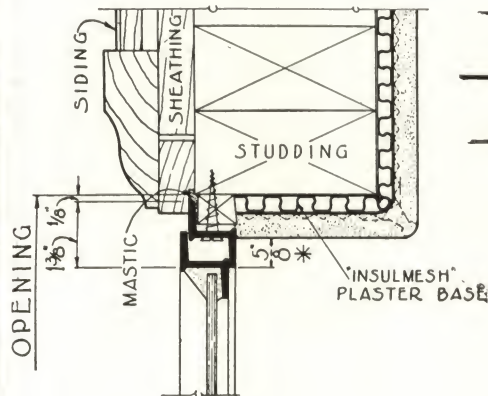
DETAILS OF BRICK VENEER CONSTRUCTION
RESIDENCE CASEMENTS
SERIES 5

PLATE No.
CR-24
OCTOBER, 1935

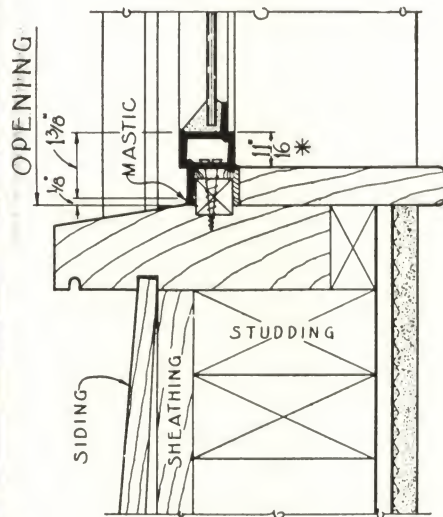
FRAME CONSTRUCTION



HEAD



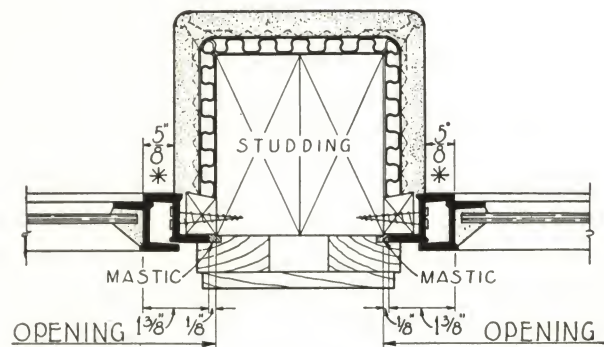
JAMB



SILL



EXTERIOR ELEVATION
TWO WINDOW BAY ~ FRAME MULLION



MULLION

*~CLEARANCE REQUIRED FOR INSTALLATION OF
ANY "TRUSCON" SCREEN COMBINATION

TRUSCON
STEEL COMPANY
Youngstown, Ohio

FRAME CONSTRUCTION DETAILS
RESIDENCE CASEMENTS
SERIES 5

PLATE No.
CR-25
OCTOBER, 1934

HOME DEVELOPMENT CASEMENTS

Series 5

THE Truscon Home Development window designed primarily for homes where cost is of paramount consideration, is truly a modern window. Horizontal lines are accentuated. Hardware and screens are simple in design but offer convenience in opening or closing the window and are "insect tight." Sections used in its manufacture are the same as those used in the production of Residence Casements.

GLASS SIZE

The nominal glass size of 16"x12" as compared with the 8"x12" glass size of the Residence Casement means a considerable saving in glazing costs.

Twenty sizes and 32 types are carried in stock for immediate shipment. These stock units should take care of practically any job requirements.

SCREENS

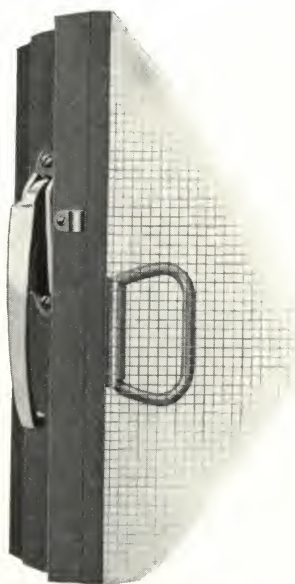
The screen used with the Home Development Window is of the side hinged type. However, because of the new window hardware, it differs from previous hinged screens in that it fits flat against the window even when the window is closed. Only two screws are used in attaching the screen which saves time in removing for storage.

HARDWARE

The locking handle is attached to the casement frame and locks through the window section. Cam action insures the ventilator being drawn tightly against the frame for better weathering. The inconspicuous grip attached to the ventilator is used for opening the ventilator or pulling it shut. Cleaning type friction hinges hold the ventilator in any open position and make it possible to wash the outside of the glass from within the room.

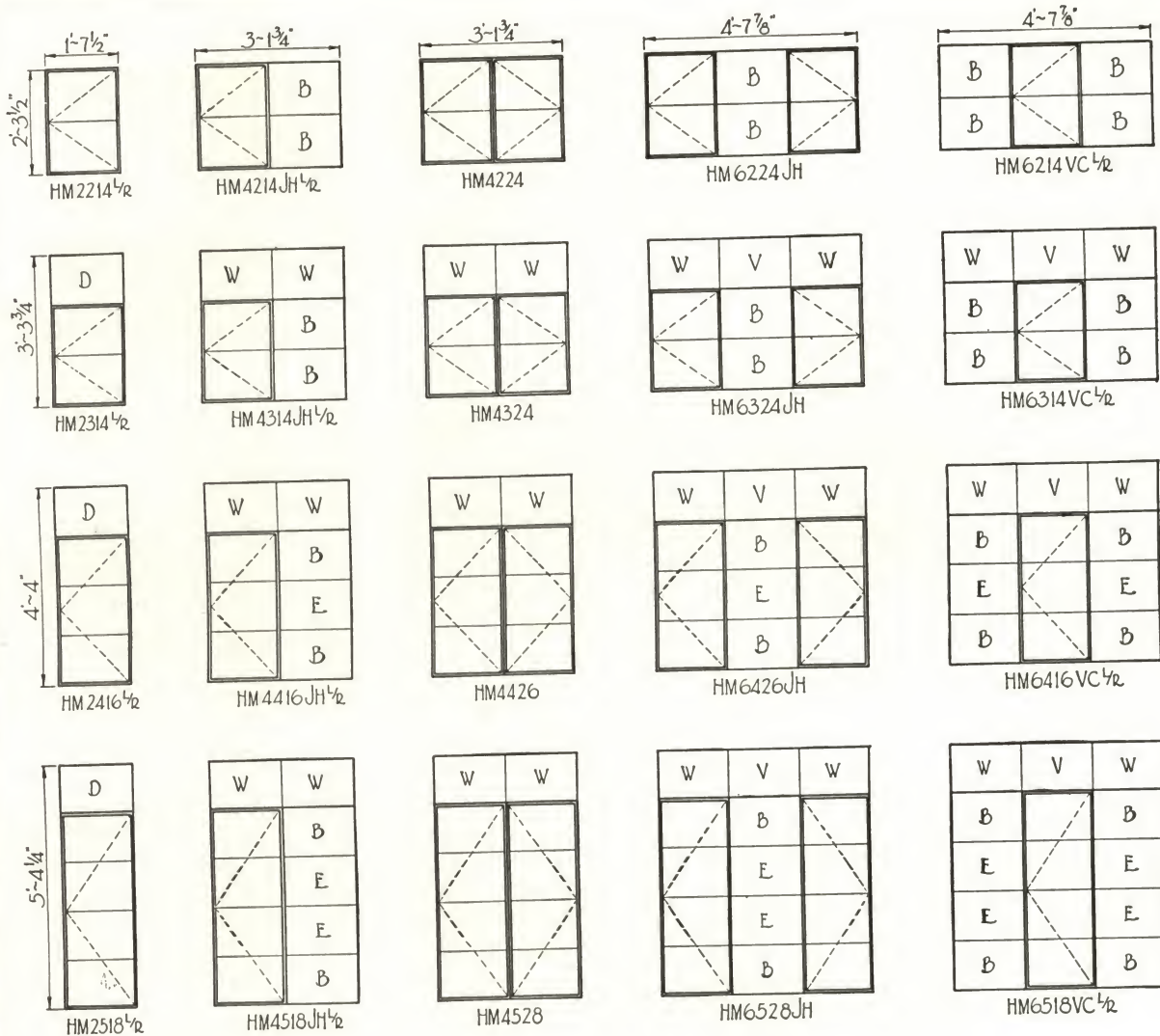


Screen Open



Screen Closed





GLASS LIST
HORIZONTAL MUNTIN WINDOWS

GLASS SIZE FOR ALL VENTS IS 16" x 12"

B ~ 17 1/2" x 12 5/8"
D ~ 17 1/2" x 11 3/4"
E ~ 17 1/2" x 12"

V ~ 17 7/8" x 11 3/4"
W ~ 17 1/4" x 11 3/4"

NOTES

DIMENSIONS SHOWN ARE WINDOW OPENING DIMENSIONS.

ALL UNITS ARE VIEWED FROM OUTSIDE.
ALL VENTS ARE SIDE HINGED TO SWING OUT.
HANDING OF SINGLE VENTS MUST ALWAYS BE STATED.

MUNTINS SHOWN MAY BE OMITTED AT NO CHARGE.

TRUSCON
STEEL COMPANY
Youngstown, Ohio

TYPES AND SIZES - STOCK UNITS
HOME DEVELOPMENT STEEL CASEMENTS
SERIES 5

PLATE No.
CR-38
JUNE, 1935

ARCHITECTURAL CASEMENTS

SERIES 15

THE Architectural Casement, Series 15, has been designed to fill the need of a heavier type of casement for better class residential, apartment, public and semi-public buildings. Although standard types are available to fill average requirements, these casements can be built to conform with any architectural design.

CONSTRUCTION DETAILS

(1) **Jamb Section**—Cross section of continuous frame member at jambs. All corners of frame are mitered, butt welded and ground smooth before assembly.

(2) **Jamb Section Through Frame Member and Swing Leaf Section**—Showing positive $\frac{3}{8}$ in. double contact weathering.

(3) **Vertical Meeting Rail Between Swing Leaves**—Note Heavy Tee section, flush on inside with frame, compact assembly and $\frac{3}{8}$ in. positive double-contact weathering.

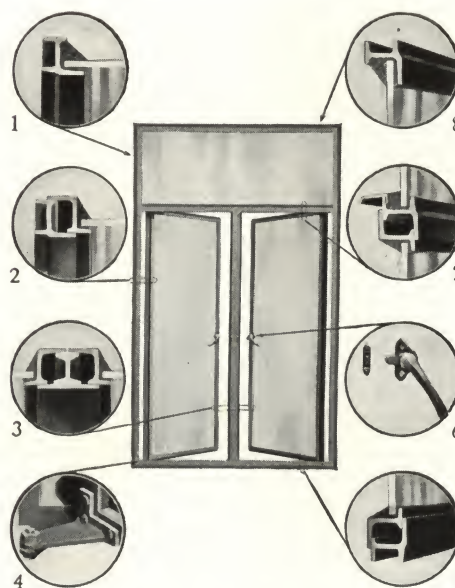
(4) **Extension Type Friction Hinge**—Permits easy cleaning of windows from the inside and holds swing leaf in any desired position without the use of an adjuster. Bronze bushings assure long wear.

(5) **Sill Section**—Cross section through bottom rail of swing leaves and frame section, showing $\frac{3}{8}$ in. positive double-contact weathering.

(6) **Locking Handle and Strike**—Pure in design. Made of bronze in old English finish. Other finishes available when specified.

(7) **Detail of Transom Bar**—With fixed transom light above and swing leaves below, showing $\frac{3}{8}$ in. double-contact weathering.

(8) **Head Section**—Cross-section of frame at head when fixed transom light is required. Frame section continuous from jamb to jamb.



UNDERWRITERS' LABEL

Underwriters' label of approval may be specified for all standard sizes shown up to six lights in height provided glass lights, if outside glazing is used, do not exceed 125 square inches using standard muntin bar or 350 square inches using extra heavy muntin bar. If inside bead glazing is used, glass sizes are limited to 155 square inches.

SPECIFICATIONS

(1) **General**—All window openings shown on the drawings, unless otherwise specified, shall be fitted with Architectural Casements, Series 15, as manufactured by the TRUSCON STEEL COMPANY of Youngstown, Ohio. No substitutions will be permitted without the written approval of the architect.

(2) **Material**—Truscon specification, new billet, hot-rolled, steel shall be used in the manufacture of all members.

(3) **Construction**—(a) All units shall be square and true and constructed of sections not less than $1\frac{1}{8}$ in. deep. The combined weight of frame and ventilator sections exclusive of glazing beads or sub-frames shall be not less than 3.51 pounds per linear foot. The outside framing section shall be a channel leg section continuous from sill to head and jamb to jamb and shaped for double flat contact weathering of not less than $\frac{3}{8}$ in. between frames and swing leaves. Each corner of swing leaves and frames shall be mitered, electrically butt welded and ground smooth before assembly.

(b) *Muntins* shall be specially designed Tee Bar sections and shall be continuous between rails and stiles. At intersections there shall be a mechanical joint rigidly interlocking the muntins flush with each other. Joints of muntins and frames, stiles and rails shall be tenoned, mortised and air-hammer riveted (see note).

(c) All stiles, rails, frames and muntins shall be prepared for outside plying glazing with spring clips. (See note.)

(d) All side hinged swing leaves shall swing out, unless otherwise specified, and shall be equipped with Truscon design friction type, bronze bushed hinges designed to hold the swing leaf open in any desired position. Transoms shall be equipped with steel butt bronze pin hinges.

(e) A continuous drip shall be provided on transom bars of all standard swing leaf combinations, or at the head where ventilators extend full height of the opening.

(f) Windows shall be prepared to receive either screen type or non-screen type hardware as hereinafter specified.

(4) **Hardware**—

NON-SCREEN TYPE

(a) All hardware shall be bronze, Old English finish.

(b) For side hinged swing leaves up to and including five feet in height, a bronze cam acting locking handle and bronze

strike shall be furnished. For side hinged swing leaves over five feet in height or when center line of swing leaf is 6 ft. 3 in. or more from the floor, bronze double locking device and bronze strikes shall be furnished.

(c) For top hinged transoms a bronze push arm shall be furnished.

(d) For double vented units with clear opening (no meeting rail) bronze cremone bolt hardware shall be furnished.

SCREEN TYPE

(e) Screen type hardware shall be fully automatic and positive and shall control the swing leaf independently of the screen.

(f) Standard Screen Type Hardware for side hinged swing leaves shall consist of either Autolock or Artex Underscreen Operator and concealed latch locking handle. Autolock Operator shall have a bronze case and solid bronze Old English finish bar. Artex Operator shall have black finish case and Old English Bronze finish handle. Concealed latch locking handle shall be solid bronze Old English finish. Worm drive operators in solid bronze Old English finish can be furnished when specified.

(g) Standard screen type hardware for top hung transoms shall consist of heavy bronze Old English finish push bar operating through frame or section.

(5) **Painting**—Casements shall be given one coat of protective paint at factory before shipment.

(6) **Glazing**—All casements shall be glazed on the outside with glazing clips (See note).

(7) **Erection**—(a) Each unit shall be set plumb and true in the opening, securely wedged and held in alignment during construction. After windows have been placed in opening and before they have been glazed, the ventilator shall be carefully adjusted.

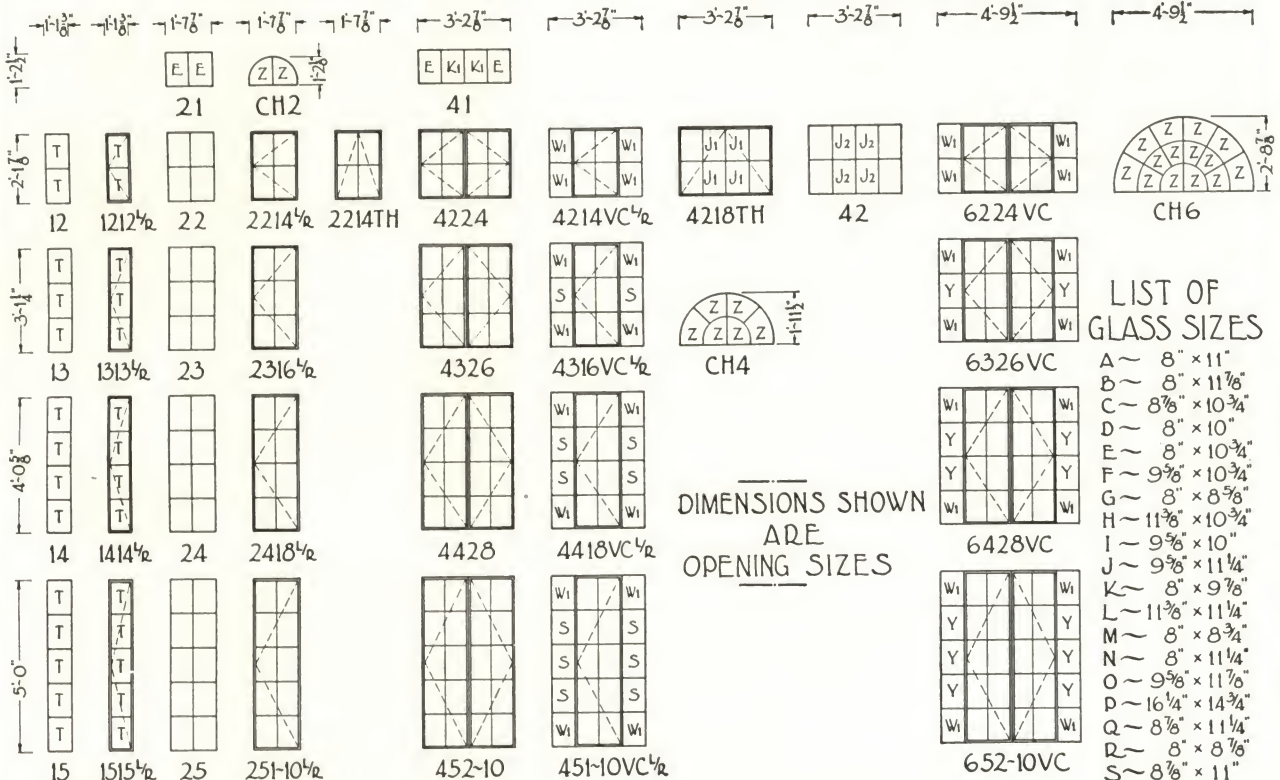
(b) Mastic in sufficient quantity shall be used in setting and bedding frames where they come in contact with mullions or wall construction.

Notes: Muntin bars may be omitted for use of leaded glass of any pattern, or for single lights.

Windows may be inside bead glazed if specified.

Architectural Casements, Series 15, can be furnished to "open in."

STOCK TYPES

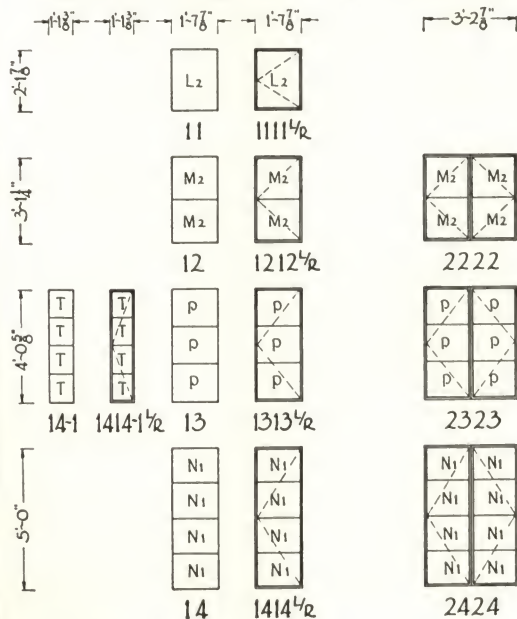


LIST OF GLASS SIZES

- A ~ 8" x 11"
- B ~ 8" x 11 $\frac{1}{8}$ "
- C ~ 8 $\frac{3}{8}$ " x 10 $\frac{3}{4}$ "
- D ~ 8" x 10"
- E ~ 8" x 10 $\frac{3}{4}$ "
- F ~ 9 $\frac{3}{8}$ " x 10 $\frac{3}{4}$ "
- G ~ 8" x 8 $\frac{3}{8}$ "
- H ~ 11 $\frac{3}{8}$ " x 10 $\frac{3}{4}$ "
- I ~ 9 $\frac{3}{8}$ " x 10"
- J ~ 9 $\frac{3}{8}$ " x 11 $\frac{1}{4}$ "
- K ~ 8" x 9 $\frac{3}{8}$ "
- L ~ 11 $\frac{3}{8}$ " x 11 $\frac{1}{4}$ "
- M ~ 8" x 8 $\frac{3}{4}$ "
- N ~ 8" x 11 $\frac{1}{4}$ "
- O ~ 9 $\frac{3}{8}$ " x 11 $\frac{3}{8}$ "
- P ~ 16 $\frac{1}{4}$ " x 14 $\frac{3}{4}$ "
- Q ~ 8 $\frac{3}{8}$ " x 11 $\frac{1}{4}$ "
- R ~ 8" x 8 $\frac{3}{8}$ "
- S ~ 8 $\frac{3}{8}$ " x 11"
- T ~ 9 $\frac{3}{8}$ " x 11"
- V ~ 11 $\frac{3}{8}$ " x 11"
- W ~ 9 $\frac{3}{8}$ " x 9 $\frac{3}{8}$ "
- X ~ 9 $\frac{3}{8}$ " x 10 $\frac{3}{8}$ "
- Y ~ 8 $\frac{3}{8}$ " x 11"
- Z ~ TO TEMPLATE
- Dr ~ 11 $\frac{3}{8}$ " x 10 $\frac{3}{8}$ "
- J1 ~ 8 $\frac{3}{8}$ " x 10 $\frac{3}{8}$ "
- K1 ~ 9 $\frac{3}{8}$ " x 10 $\frac{3}{4}$ "
- N1 ~ 16 $\frac{1}{4}$ " x 13 $\frac{3}{8}$ "
- O1 ~ 9 $\frac{3}{8}$ " x 11 $\frac{1}{4}$ "
- P1 ~ 8 $\frac{3}{4}$ " x 10 $\frac{3}{4}$ "
- S1 ~ 9 $\frac{3}{8}$ " x 8 $\frac{3}{8}$ "
- U1 ~ 9 $\frac{3}{8}$ " x 8 $\frac{3}{4}$ "
- V1 ~ 9 $\frac{3}{8}$ " x 8 $\frac{3}{8}$ "
- W1 ~ 8 $\frac{3}{8}$ " x 11 $\frac{3}{8}$ "
- X1 ~ 8 $\frac{3}{8}$ " x 10 $\frac{1}{2}$ "
- A2 ~ 8 $\frac{3}{8}$ " x 10 $\frac{3}{8}$ "
- C2 ~ 8 $\frac{3}{8}$ " x 12 $\frac{1}{2}$ "
- E2 ~ 8 $\frac{3}{8}$ " x 10 $\frac{3}{8}$ "
- F2 ~ 8 $\frac{3}{4}$ " x 11 $\frac{1}{4}$ "
- G2 ~ 8 $\frac{3}{8}$ " x 10 $\frac{3}{8}$ "
- I2 ~ 9 $\frac{3}{8}$ " x 11 $\frac{3}{8}$ "
- J2 ~ 9 $\frac{3}{8}$ " x 11"
- K2 ~ 8 $\frac{3}{8}$ " x 10 $\frac{1}{2}$ "
- L2 ~ 16 $\frac{1}{4}$ " x 22 $\frac{1}{4}$ "
- M2 ~ 16 $\frac{1}{4}$ " x 16 $\frac{3}{8}$ "
- O2 ~ 9 $\frac{3}{8}$ " x 10 $\frac{3}{8}$ "

DIMENSIONS SHOWN
ARE
OPENING SIZES

SPANISH TYPES



NOTES

ALL CASEMENTS ARE VIEWED FROM THE OUTSIDE.

HANDING OF CASEMENTS IS DETERMINED BY LOCATION OF HINGES. HINGED AT THE RIGHT IS A RIGHT HAND CASEMENT. HINGED AT THE LEFT IS A LEFT HAND CASEMENT.

MUNTIN BARS MAY BE OMITTED IF DESIRED.

ALL CASEMENTS TO BE SET IN MASTIC CEMENT.

STANDARD MULLION DIMENSION IS $\frac{1}{4}$ ".

WHERE MULLIONS ARE USED, TO OBTAIN OPENING DIMENSIONS, ADD TOGETHER OPENING DIMENSIONS OF THE SPECIFIC WINDOWS TO BE COMBINED.

UNLESS OTHERWISE NOTED GLASS SIZE TO BE 8" x 11".

FOR CASEMENT DOOR, SIDELIGHTS AND TRANSOMS TYPES AND SIZES SEE PLATE CA-10.

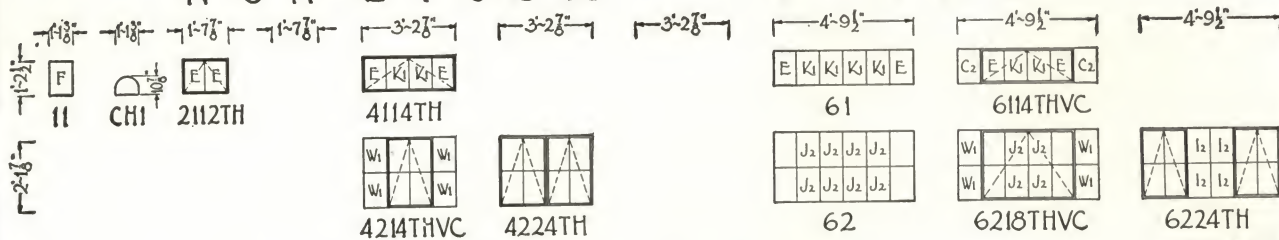
TRUSCON
STEEL COMPANY
Youngstown, Ohio

STOCK TYPES AND SIZES
ARCHITECTURAL STEEL CASEMENTS
SERIES 15

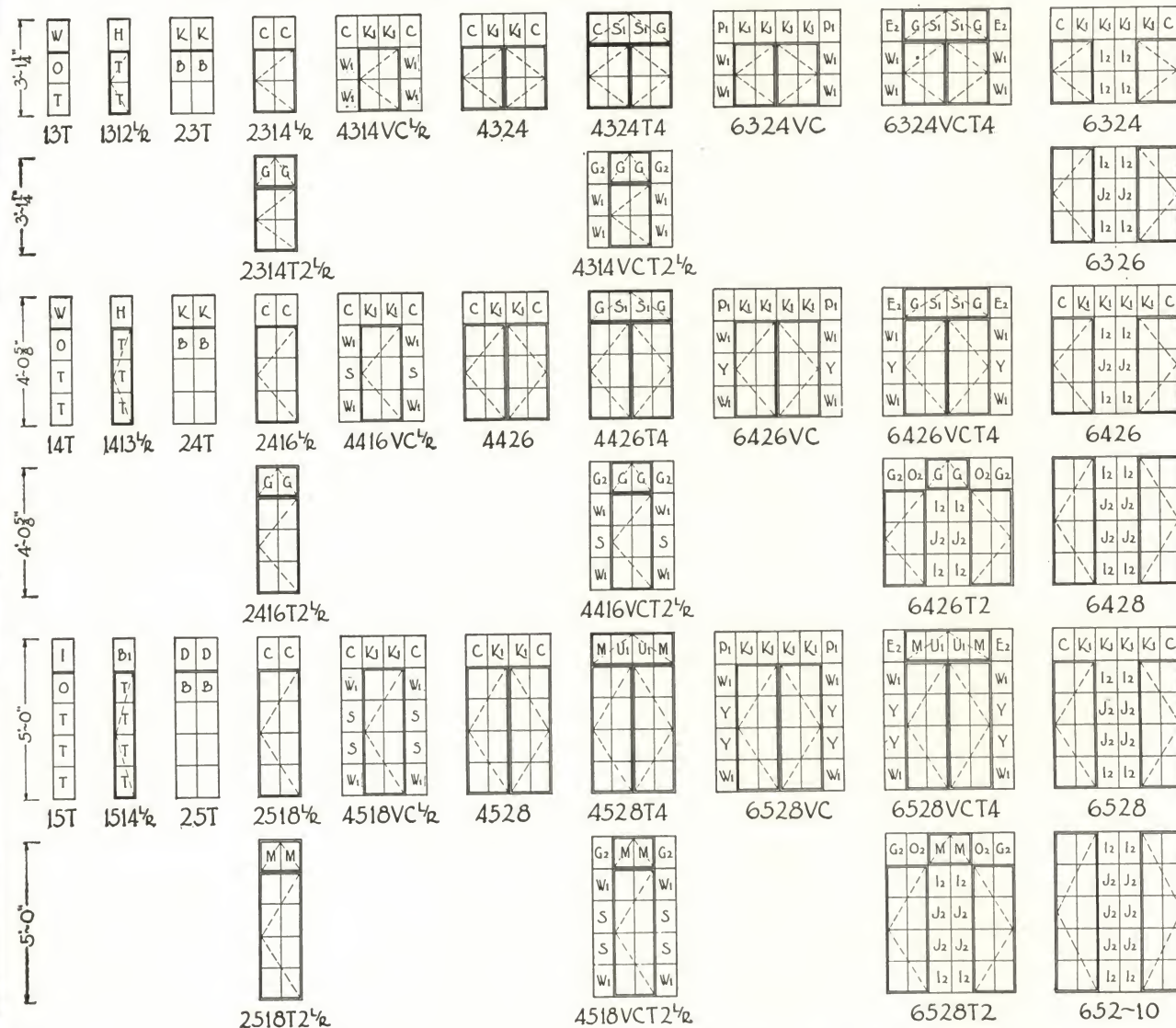
PLATE No.
CA-1
NOVEMBER, 1934

NON-STOCK

TYPES



DIMENSIONS SHOWN ARE OPENING SIZES
FOR GLASS SIZES AND NOTES REFER TO PLATE CA-1

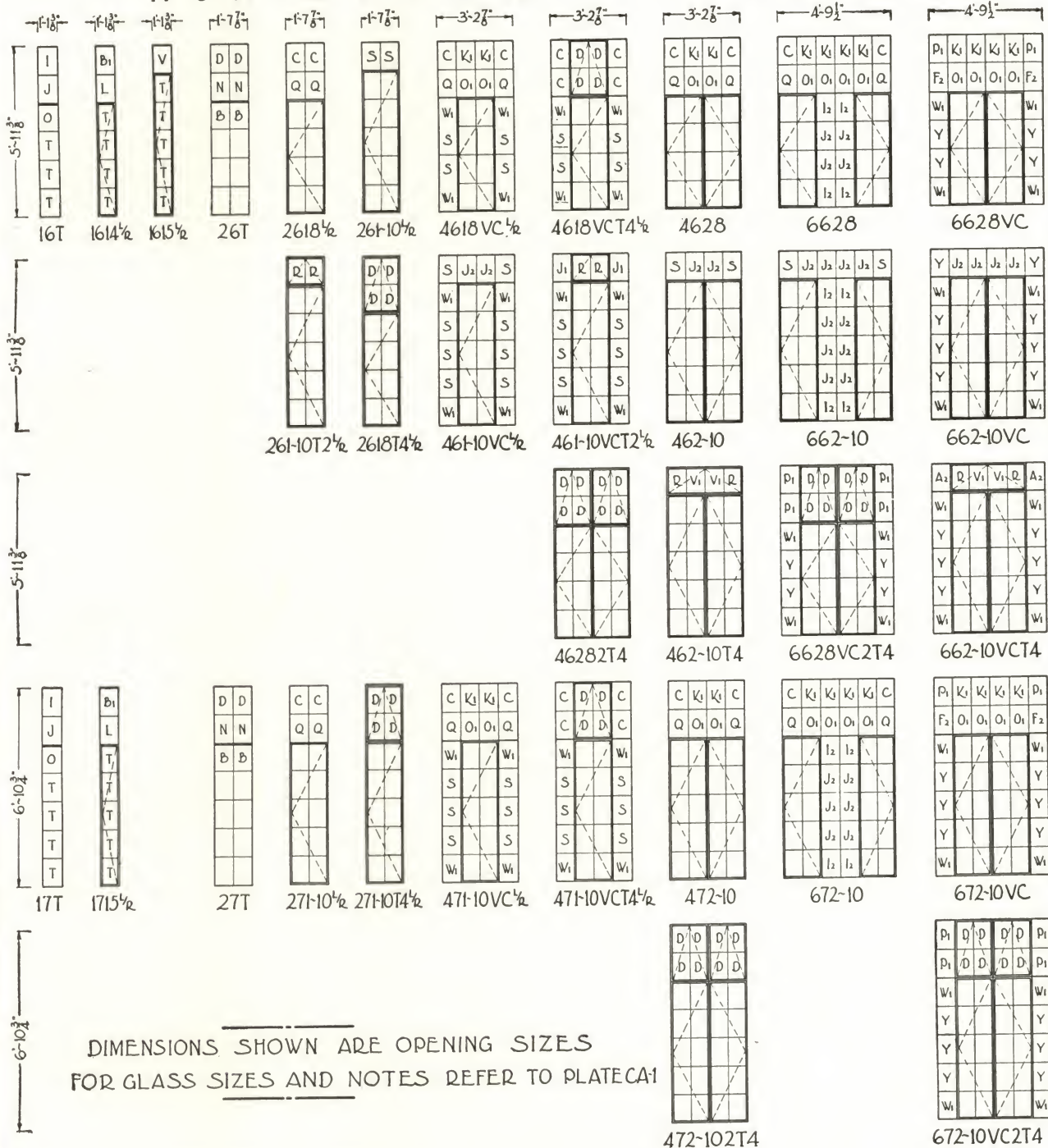


TRUSCON
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Youngstown, Ohio

NON STOCK-TYPES AND SIZES
ARCHITECTURAL STEEL CASEMENTS
SERIES 15

PLATE No.
CA-2
NOVEMBER, 1934

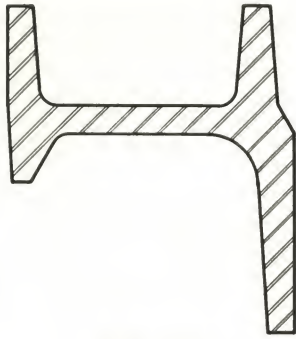
NON-STOCK TYPES



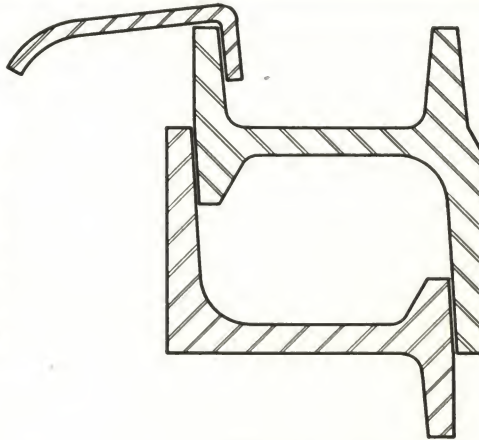
TRUSCON
STEEL COMPANY
Youngstown, Ohio

NON STOCK-TYPES AND SIZES
ARCHITECTURAL STEEL CASEMENTS
SERIES 15

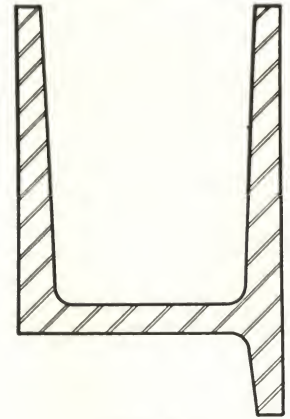
PLATE No.
CA-3
NOVEMBER, 1934



HEAD



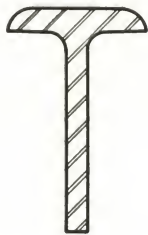
HEAD OR
TRANSOM



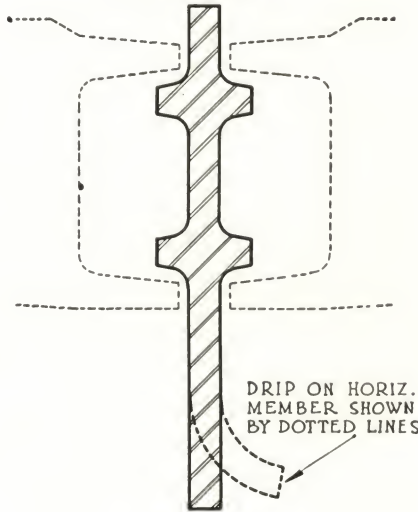
HEAD



WINDBREAK
ANGLE

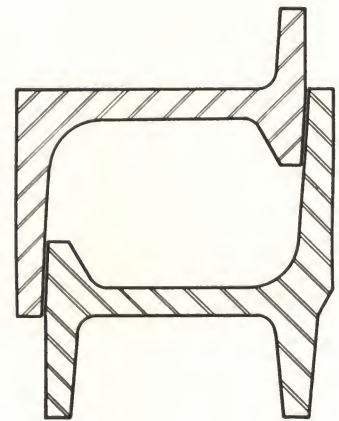


MUNTIN

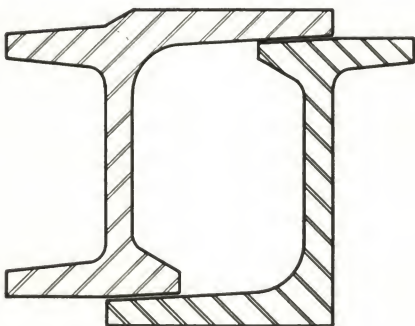


D RIP ON HORIZ.
MEMBER SHOWN
BY DOTTED LINES

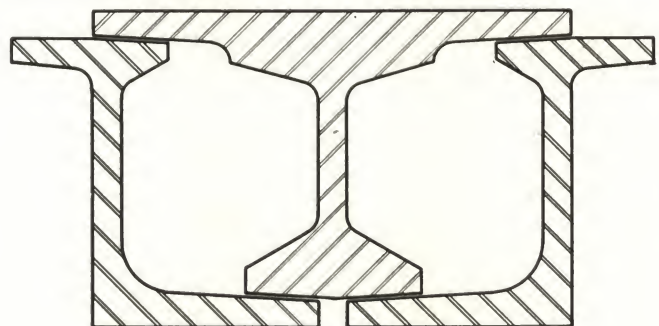
MULLION
VERTICAL OR HORIZONTAL



SILL



JAMB



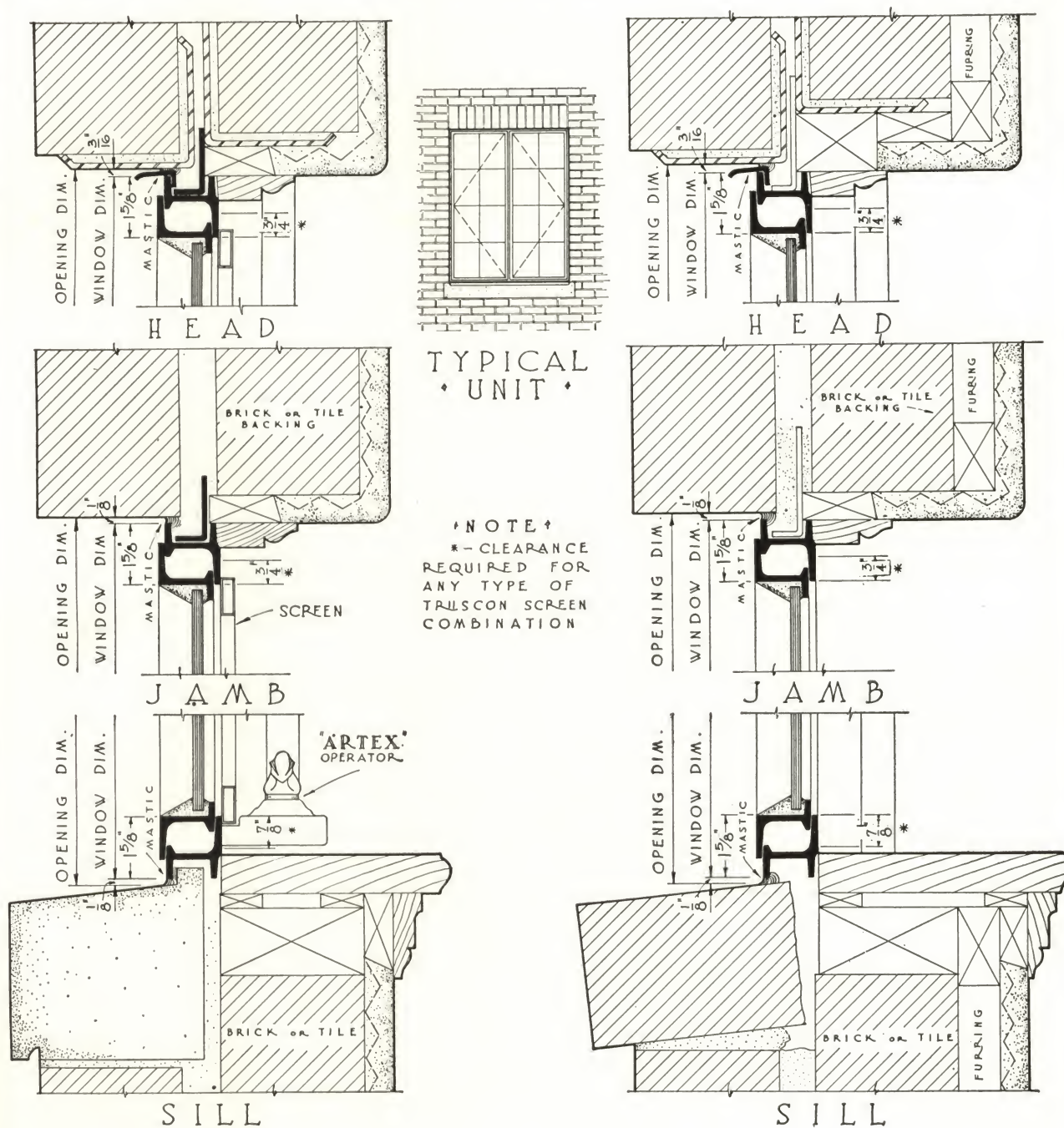
MEETING RAIL

TRUSCON
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Youngstown, Ohio

FULL SIZE SECTIONS
ARCHITECTURAL STEEL CASEMENTS
SERIES 15

PLATE No.
CA-4
OCTOBER, 1932

SOLID MASONRY DETAILS

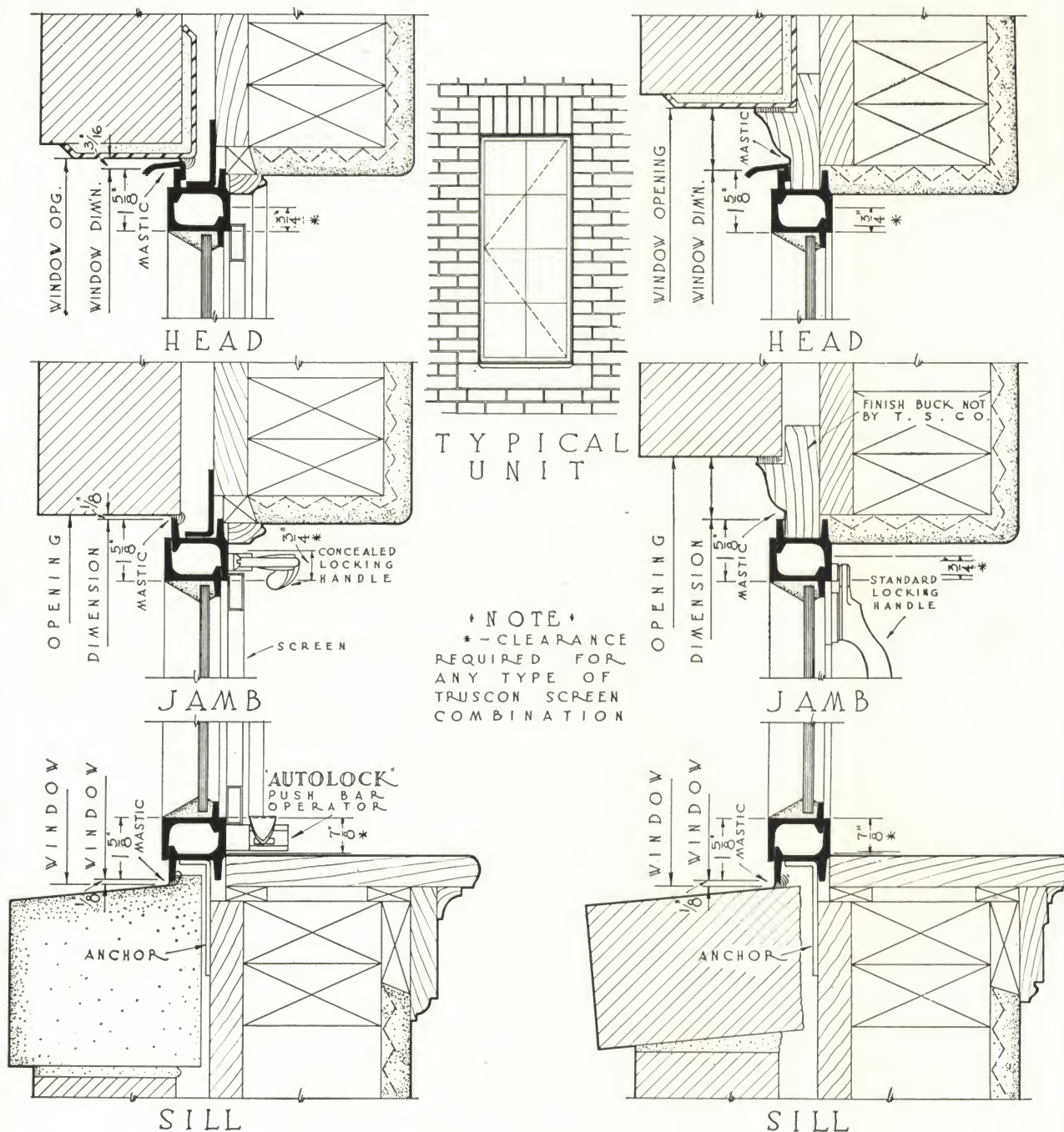


TRUSCON
STEEL COMPANY
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SOLID MASONRY INSTALLATION DETAILS
ARCHITECTURAL STEEL CASEMENTS
SERIES 15

PLATE No.
CA-7
NOVEMBER, 1934

BRICK VENEER DETAILS

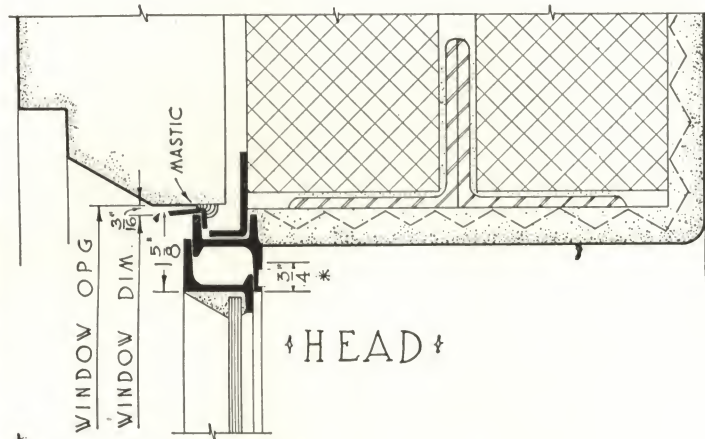


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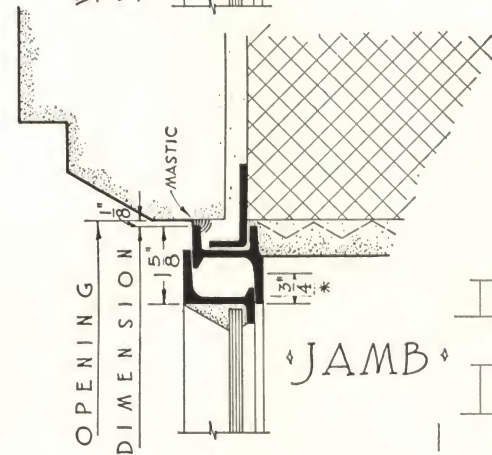
BRICK VENEER INSTALLATION DETAILS
ARCHITECTURAL STEEL CASEMENTS
SERIES 15

PLATE No.
CA-8
NOVEMBER, 1934

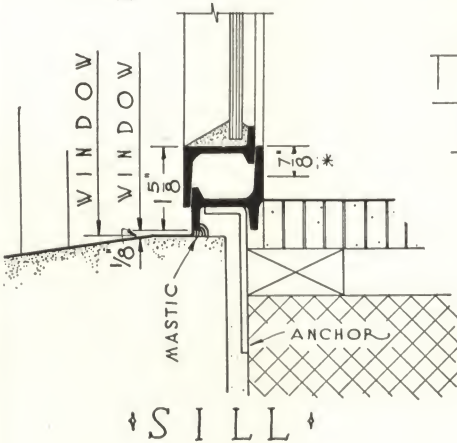
STONE DETAILS



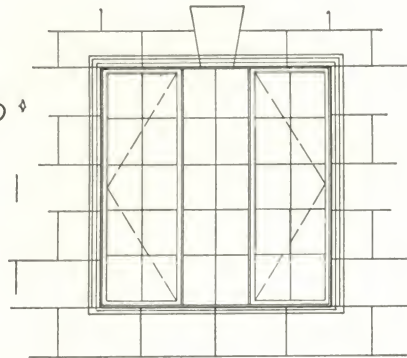
HEAD



JAMB

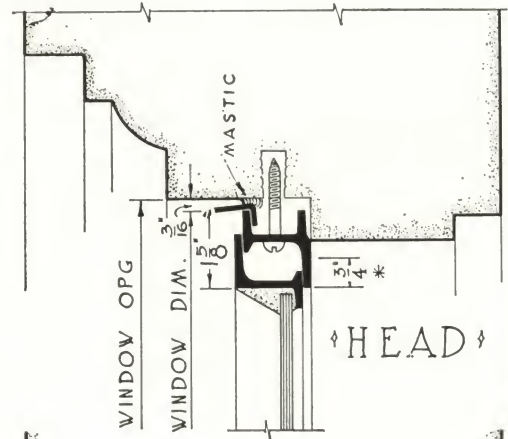


SILL

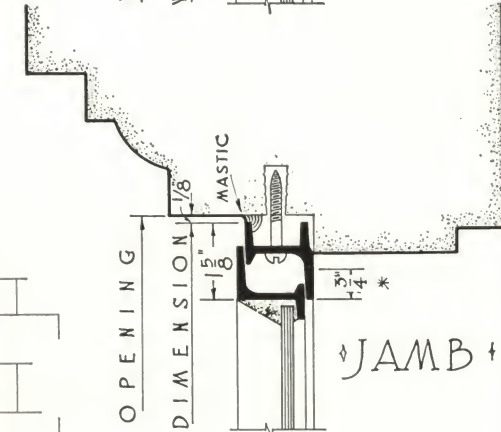


TYPICAL UNIT

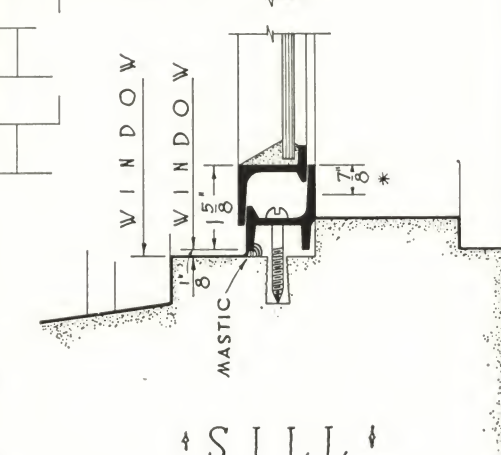
NOTE
* - CLEARANCE
REQUIRED FOR
ANY TYPE OF
TRUSCON SCREEN
COMBINATION.



HEAD



JAMB



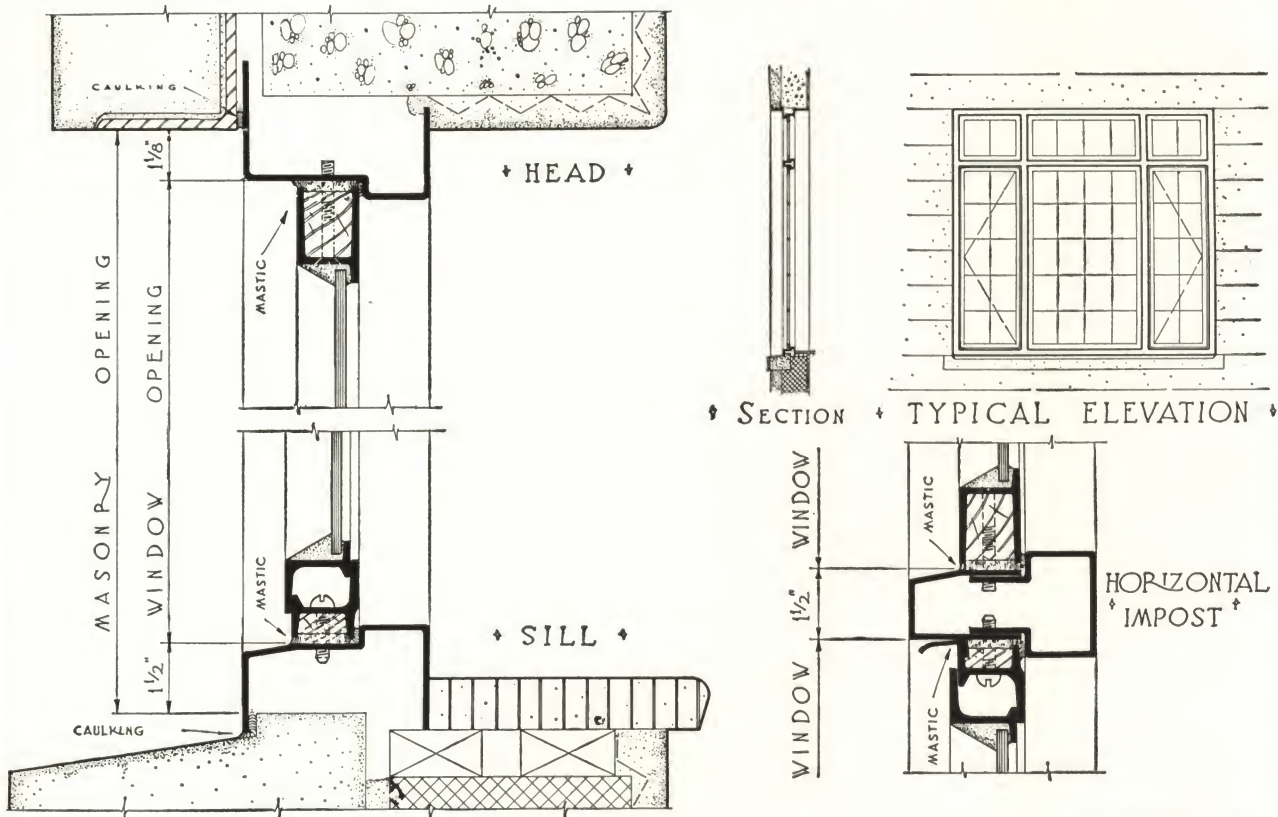
SILL

TRUSCON
STEEL COMPANY
Youngstown, Ohio

STONE INSTALLATION DETAILS
ARCHITECTURAL STEEL CASEMENTS
SERIES 15

PLATE No.
CA-9
OCTOBER, 1932

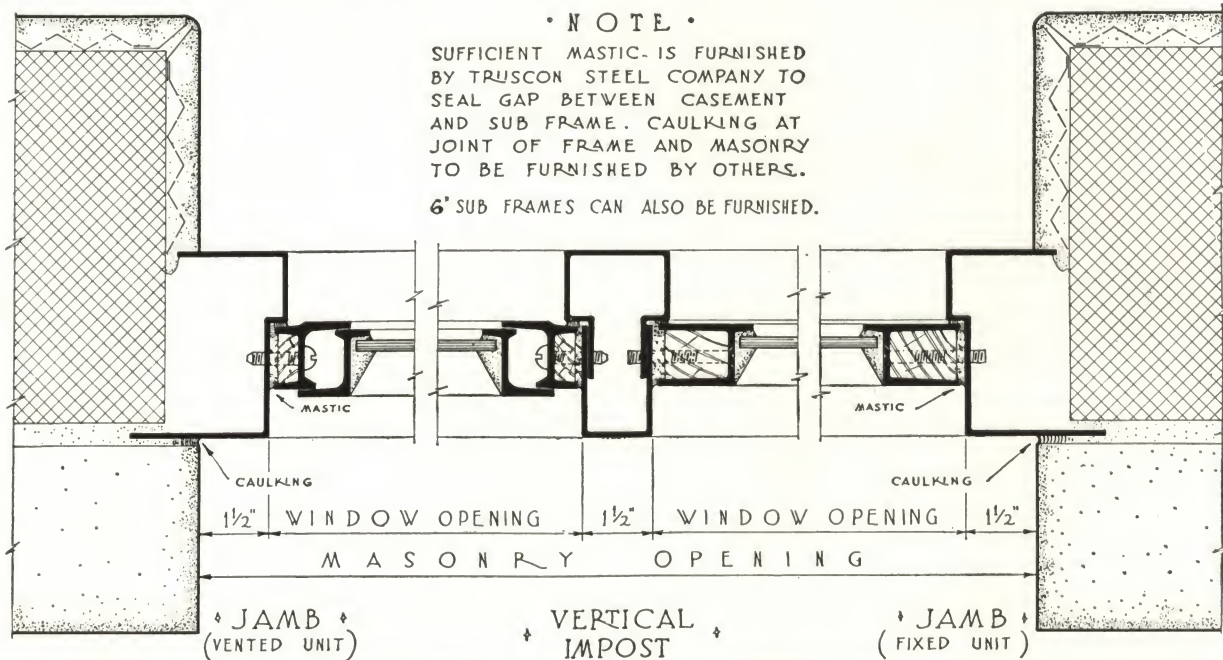
SUB - FRAME INSTALLATION



• NOTE •

SUFFICIENT MASTIC IS FURNISHED BY TRUSCON STEEL COMPANY TO SEAL GAP BETWEEN CASEMENT AND SUB FRAME. CAULKING AT JOINT OF FRAME AND MASONRY TO BE FURNISHED BY OTHERS.

6" SUB FRAMES CAN ALSO BE FURNISHED.



TRUSCON
STEEL COMPANY
Youngstown, Ohio

DETAILS OF 4" SUB-FRAME
ARCHITECTURAL STEEL CASEMENTS
SERIES 15

PLATE No.
CA-6
NOVEMBER, 1934

HARDWARE FOR ARCHITECTURAL AND PARAMOUNT CASEMENTS
AND MONUMENTAL WINDOWS—*Series 15, 15C, 15P and 25*



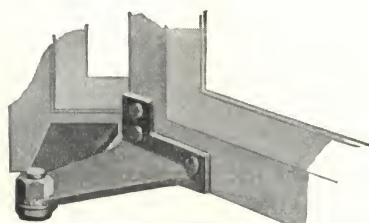
Standard Locking Handles



Screen Type Locking Handles



Locking Handle
Pole Operated



Extension Hinge

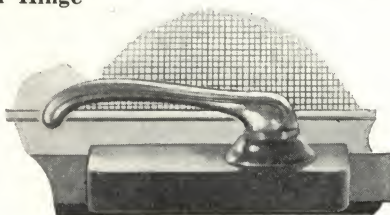


Transom Latch
Pole Operated

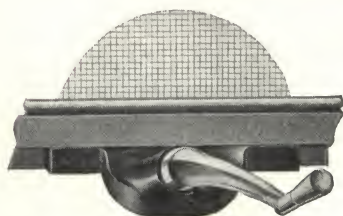


Transom Latch
Cord
Operated

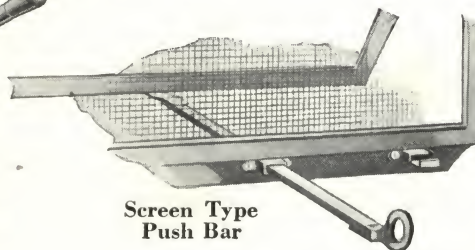
Artex
Underscreen
Operator



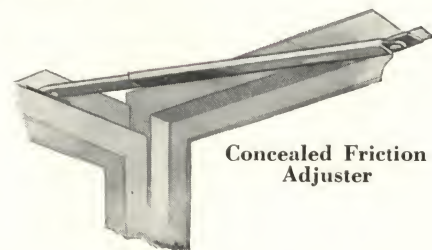
Butt Hinge



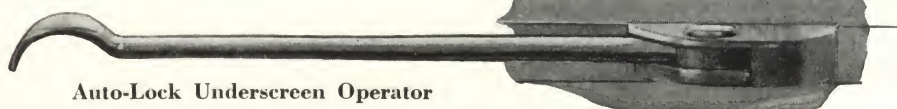
Worm and Gear
Operator



Screen Type
Push Bar



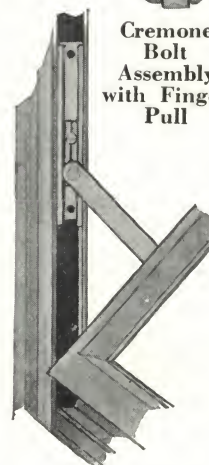
Concealed Friction
Adjuster



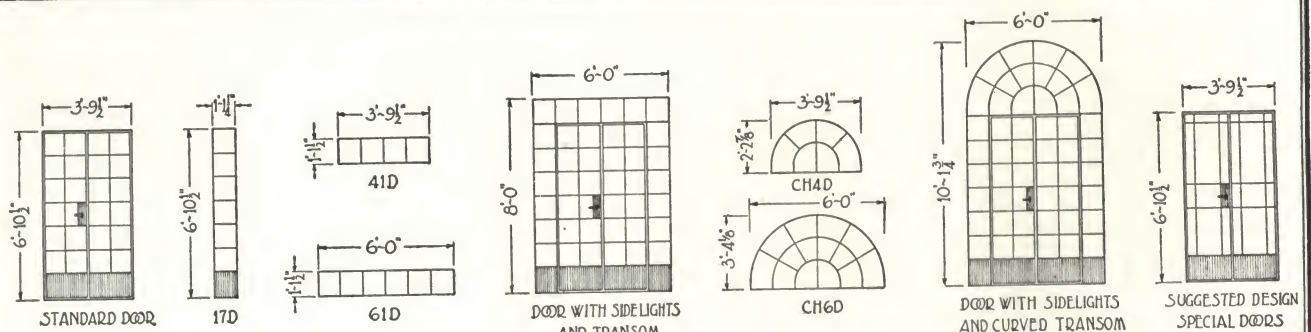
Auto-Lock Underscreen Operator



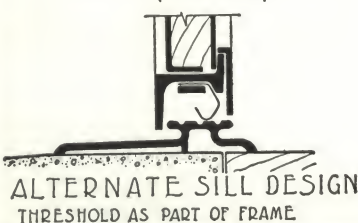
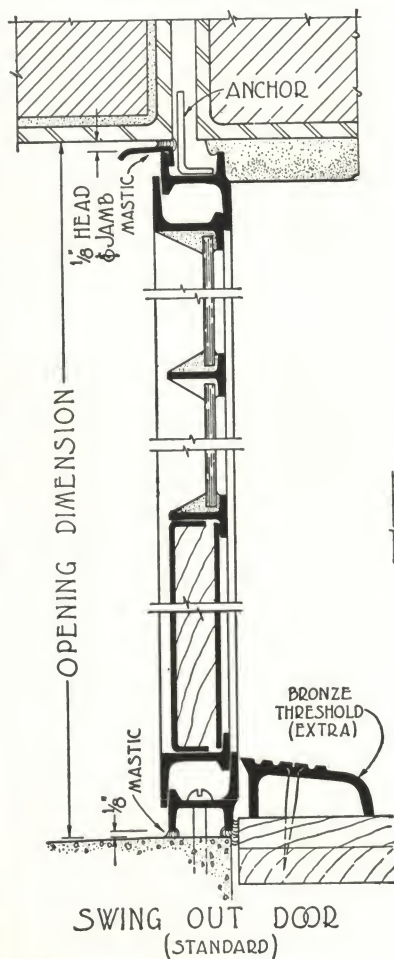
Cremone
Bolt
Assembly
with Finger
Pull



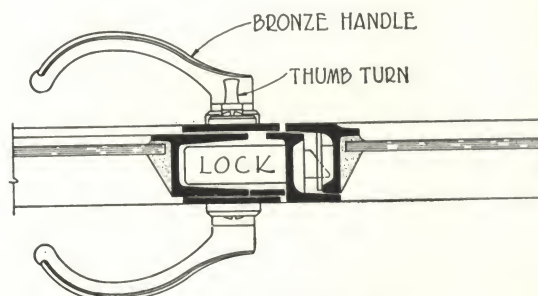
Concealed Side Arm



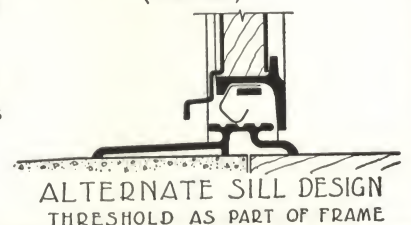
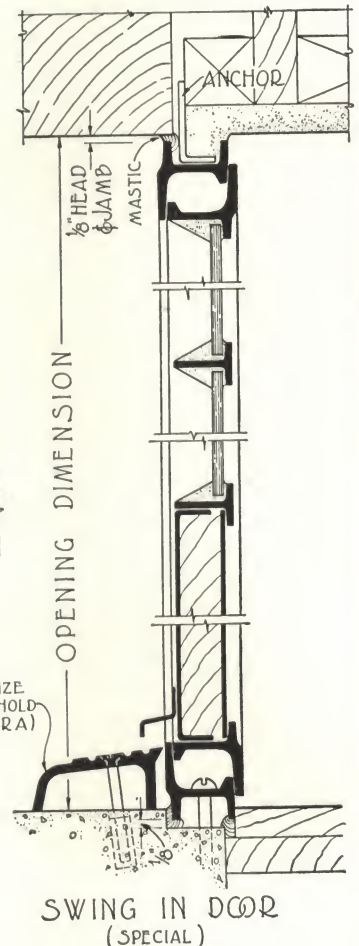
TYPICAL DESIGN AND ARRANGEMENT OF DOORS SIDELIGHTS AND TRANSOMS



† STANDARD DOORS †
STANDARD DOORS SWING OUT ONLY—MUNTINS, EXCEPTING THE TWO HORIZONTAL MUNTINS FRAMING THE LOCK CASE, MAY BE OMITTED.
STANDARD DOORS ARE PROVIDED WITH THREE STEEL BUTT HINGES PER LEAF, MORTISE LOCK, HANDLES AND THUMB TURN ON ACTIVE LEAF, CONCEALED TOP AND BOTTOM BOLT ON INACTIVE LEAF.
CYLINDERS FOR MORTISE LOCK, BRONZE BUTT HINGES, BRONZE FRICTION ADJUSTERS, BRONZE THRESHOLD, DUMMY LOCK CASE AND HANDLES FOR INACTIVE LEAF AND PANIC BOLT HARDWARE WILL BE FURNISHED AT EXTRA COST.



DETAIL AT MEETING RAIL
SHOWING LOCKING HANDLES
(STANDARD SWING OUT DOORS)

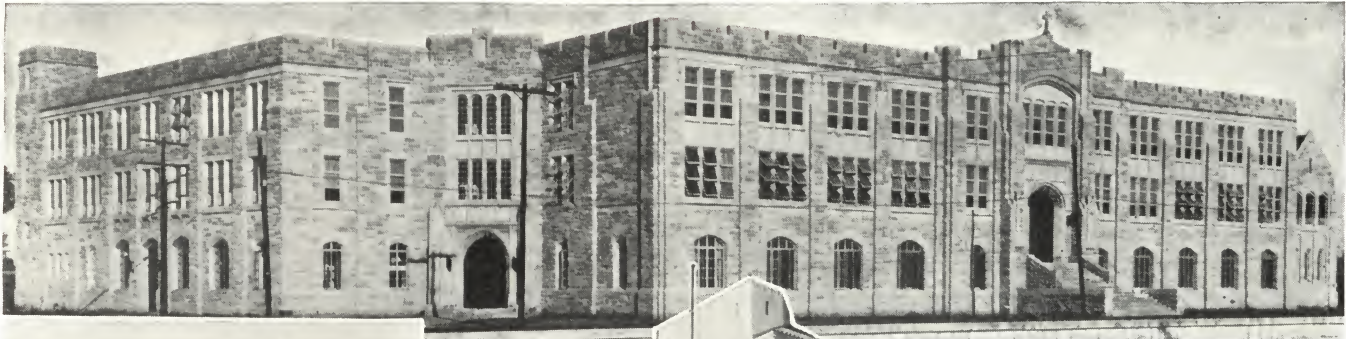


† SPECIAL DOORS †
SPECIAL DOORS, TO SWING IN OR OUT, ARE BUILT IN ANY SIZE UP TO 5'-0" WIDE X 7'-6" HIGH (FOR DOUBLE DOORS) OF INTERMEDIATE WEIGHT SECTIONS AND UP TO 6'-0" WIDE X 8'-0" HIGH (FOR DOUBLE DOORS) OF HEAVY WEIGHT SECTIONS.
SPECIAL DOORS MAY BE GLAZED INSIDE WITH GLAZING BEADS.
THE SAME HARDWARE IS AVAILABLE FOR SPECIAL DOORS AS THAT SPECIFIED FOR STANDARD DOORS.

TRUSCON
STEEL COMPANY
Youngstown, Ohio

STANDARD DETAILS
ARCHITECTURAL CASEMENT DOORS
SERIES 15

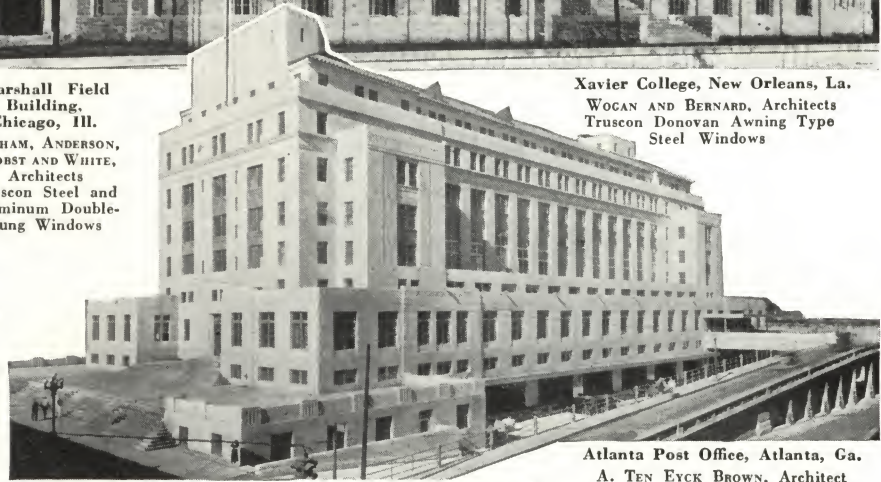
PLATE No.
CA-10
NOVEMBER, 1935



Xavier College, New Orleans, La.
WOGAN AND BERNARD, Architects
Truscon Donovan Awning Type
Steel Windows



Marshall Field
Building,
Chicago, Ill.
GRAHAM, ANDERSON,
PROBST AND WHITE,
Architects
Truscon Steel and
Aluminum Double-
hung Windows



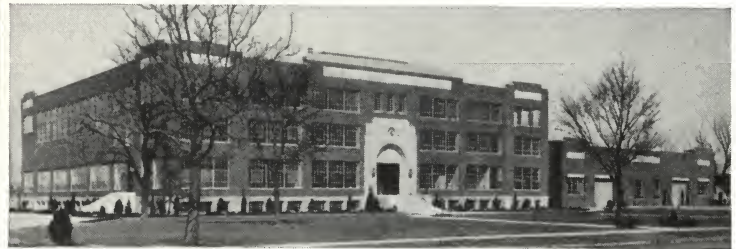
Atlanta Post Office, Atlanta, Ga.
A. TEN EYCK BROWN, Architect
Truscon Steel Double-hung Windows and Monumental Casements



Dr. J. S. Neviasser Residence, Chevy Chase, Md.
GEO. SANTMYER, Architect
Truscon Residence Casements



Tuskegee Normal and Industrial Institute,
Tuskegee, Alabama
TAYLOR & PERSLEY, Architects



Kansas Gas and Electric Building, Wichita, Kansas
Truscon Pivoted Steel Windows



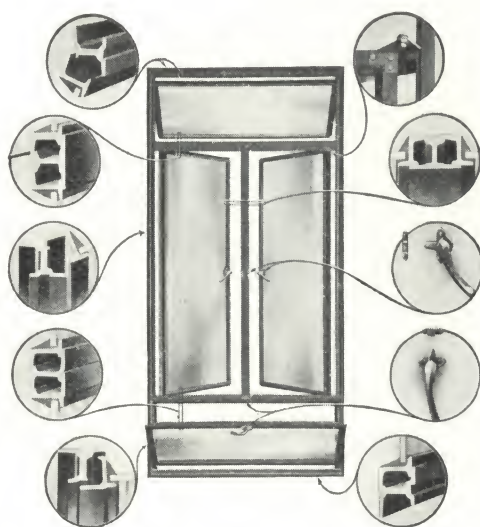
Minneapolis Workhouse, Parkers Lake,
Minn.
CROFT AND BOERNER, Architects and Engineers
Truscon Detention Steel Windows

MONUMENTAL WINDOWS

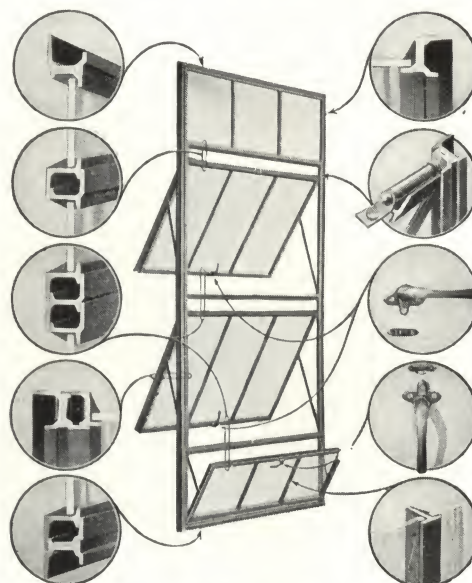
SERIES 15C AND 15P

MONUMENTAL Windows are suitable for use in hospitals, educational and public buildings, and other buildings of similar character. Their appearance is in complete harmony with

such buildings as they are constructed of casement sections, and employ casement hardware. They are extra heavy to withstand the constant usage encountered in such buildings.



Series 15C
Casement Type



Series 15P
Projected Type

SPECIFICATIONS (SERIES 15C AND 15P WINDOWS)

(1) **General**—All window openings shown on the drawings, unless otherwise specified, shall be fitted with Truscon Monumental Windows, either casement type Series 15C or projected type Series 15P, as shown, all as manufactured by the TRUSCON STEEL COMPANY of Youngstown, Ohio. No substitution will be permitted without the written approval of the architect.

(2) **Material**—Truscon specifications, new billet, hot-rolled steel shall be used in the manufacture of all members.

(3) **Construction**—All units shall be square and true and constructed of sections not less than $1\frac{7}{16}$ in. deep.

(a) The *Outside Frame* shall be an unequal leg section, designed for $\frac{5}{8}$ in. anchorage on the outside leg and continuous from head to sill and jamb to jamb and shaped for double flat contact weathering not less than $\frac{3}{8}$ in. between sash and frame. Outside Frame Section may also be equal leg section with continuous fins. Each corner of sash and frames shall be electrically butt welded rigid and tight and ground smooth before assembly. The ventilators and frame shall be made perfectly straight and true to insure perfect weathering and ease of operation.

(b) *Muntins*, where required, shall be a specially designed "T" bar section and shall be continuous between rails and stiles. At intersections there shall be

a mechanical joint rigidly interlocking the muntins flush with each other. Joints of muntins and frames, stiles and rails shall be tenoned, mortised and air-hammer riveted.

(c) All *Stiles, Rails, Frames and Muntins* shall be prepared for outside putty glazing with clips. (See note.)

(d) *Series 15C Side Hinged Swing Leaves* shall swing out unless otherwise specified and shall be equipped with Truscon design, friction type, bronze bushed hinges designed to hold swing leaf open in any desired position. Series 15C transoms and sill ventilators shall be of the projecting type. (See note.) A continuous drip shall be provided for all side hinged leaves.

(e) *Series 15P Ventilators* shall be of the projecting type opening down and outward or up and inward as specified. Each ventilator shall be balanced on two $\frac{3}{16}$ x 1 in. high carbon steel supporting arms attached to frame and ventilator by special shoulder rivets having a bronze flange bushing. Each ventilator shall be equipped with vertical sliding brass friction shoe at each jamb.

(4) **Hardware**—**NON SCREEN TYPE**

(a) All *Hardware* shall be bronze, Old English finish.

(b) For *Side Hinged Swing Leaves* up to and including 5 ft. in height, a bronze cam acting locking handle and bronze strike shall be furnished.

For *Side Hinged Swing Leaves* over 5 ft. in height or when center line of swing leaf is 6 ft. 3 in. or more from the floor, bronze double locking device and bronze strikes shall be furnished.

For *Double Vented Units* with clear opening (no meeting rail), bronze cremone bolt hardware shall be furnished.

(c) For *Projected Ventilators* a bronze cam acting locking handle and, where necessary, a bronze pole ring shall be furnished as standard. Where desired and specified, bronze spring latch, either pole or cord operated, shall be furnished.

SCREEN TYPE

(d) *Screen Type Hardware* shall be fully automatic and positive and shall control the swing leaf independently of the screen.

(e) Standard screen type hardware for side hinged swing leaves shall consist of either Autolock or Artex Underscreen Operator and concealed latch locking handle. Autolock Operator shall have a black finish case and solid bronze Old English finish bar. Artex Operators shall have black finish case and Old English bronze finish handle. Concealed latch locking handle shall be solid bronze Old English finish. Worm drive operators in solid bronze Old English finish can be furnished when specified.

(f) Standard screen type hardware for *down and outward projecting ventilators* shall consist of heavy

bronze Old English finish push arm operating through the frame or intermediate bar sections.

Ventilators projecting up and inward do not require screen type hardware.

(5) *Painting*—Casements shall be given one prime coat of grey mineral paint at factory before shipment.

(6) *Glazing*—All casements shall be glazed on the outside with glazing clips (see note).

(7) *Erection*—(a) Each unit shall be set plumb and true in the opening, securely wedged and held in alignment during construction.

After windows have been placed in opening and before they are glazed, the ventilator shall be carefully adjusted.

(b) Mastic in sufficient quantity shall be used in setting and bedding frames where they come in contact with mullions or wall construction.

Notes: Windows may be inside bead glazed with solid section, hot-rolled glazing beads if desired and so specified.

When specified, Series 15C Monumental Casements can be furnished to "open in."

UNDERWRITERS' LABEL

Underwriters' label of approval may be specified for all standard sizes shown, not exceeding 5 ft. 0 in. in width provided glass lights, if outside putty glazing is used, do not exceed 125 sq. in., using standard muntin bar or 350 sq. in., using extra heavy muntin bar. If inside bead glazing is used, glass sizes are limited to 155 sq. in.

		STANDARD WIDTHS				
		1'-6"	2'-6"	2'-6"	3'-0"	5'-0"
		1'-9"	3'-0"	3'-0"	5'-6"	5'-6"
		2'-0"	3'-6"	3'-6"	6'-0"	6'-0"
		2'-3"	4'-0"	4'-0"	6'-6"	6'-6"
		2'-6"	4'-6"	4'-6"	7'-0"	7'-0"
					7'-6"	7'-6"
HEIGHTS	4'-6"					
	5'-0"					
	5'-6"					
	6'-0"					
	7'-0"					
STANDARD	5'-6"					
	6'-0"					
	6'-6"					
	7'-0"					
	8'-0"					
	9'-0"					

NOTES

FIXED UNITS ARE FURNISHED IN STANDARD WIDTHS FROM 1'-6" TO 4'-6" AND STANDARD HEIGHTS FROM 4'-6" TO 9'-0"~ALL CASEMENTS ARE VIEWED FROM OUTSIDE~HANDING OF CASEMENTS IS DETERMINED BY LOCATION OF HINGE~HINGED AT RIGHT IS A RIGHT HAND CASEMENT~HINGED AT LEFT IS A LEFT HAND CASEMENT~DIMENSIONS SHOWN ARE CLEAR OPENING DIMENSIONS~FRAME SECTION OF WINDOWS EXTENDS 3/8" BEYOND CLEAR OPENING FOR MASONRY ANCHORAGE~STANDARD SCREEN TYPE HARDWARE AND SCREENS ARE AVAILABLE FOR ALL TYPES OF VENTILATORS~CASEMENT VENTS MAY BE MADE TO SWING IN~ALL CASEMENTS ARE SET IN MASTIC CEMENT WHERE COMING IN CONTACT WITH MASONRY.

TRUSCON
STEEL COMPANY
Youngstown, Ohio

TYPES AND SIZES
MONUMENTAL STEEL WINDOWS
CASEMENT TYPE - SERIES 15C

PLATE No.
CM-1
OCTOBER, 1934

		STANDARD WIDTHS		NOTES
		1'-6"	4'-0"	
		2'-0"	4'-6"	
		2'-6"	5'-0"	
		3'-0"	5'-6"	
		3'-6"	6'-0"	
		4'-0"	6'-6"	
		4'-6"	7'-0"	
HEIGHTS	1'-0", 1'-6"			
	2'-0", 2'-6"			
	3'-0", 3'-6"			
	4'-0"			
	5'-0", 5'-6"			
STANDARD	3'-0", 3'-6"			
	4'-0", 4'-6"			
	5'-0", 5'-6"			
	6'-0"			
	4'-6", 5'-0"			
	5'-6", 6'-0"			
	6'-6", 7'-0"			
STANDARD	4'-6", 5'-0"			
	5'-6", 6'-0"			
	6'-6", 7'-0"			
	6'-6", 7'-0"			
	7'-6", 8'-0"			
	8'-6", 9'-0"			

NOTES

DIMENSIONS SHOWN ARE CLEAR OPENING DIMENSIONS~FRAME SECTION OF WINDOWS EXTENDS 3/8" BEYOND CLEAR OPENING FOR MASONRY ANCHORAGE~ALL WINDOWS ARE SET IN MASTIC CEMENT WHERE COMING IN CONTACT WITH MASONRY~STANDARD SCREEN TYPE HARDWARE AND SCREENS ARE AVAILABLE FOR ALL TYPES OF VENTS.

STANDARD WIDTHS
1'-6", 2'-0"
2'-6", 3'-0"
3'-6", 4'-0"
4'-6"

STANDARD HEIGHTS
4'-0", 4'-6"
5'-0", 5'-6"
6'-0", 6'-6"
7'-0"

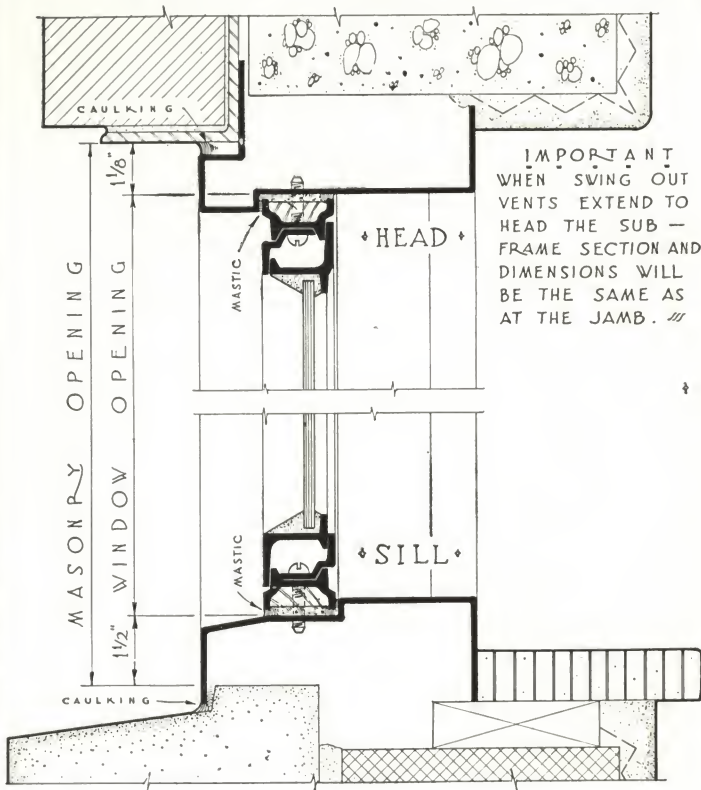
FIXED UNITS ARE FURNISHED IN STANDARD WIDTHS FROM 1'-6" TO 4'-6" AND STANDARD HEIGHTS FROM 1'-0" TO 9'-0"~DIRECTION OF PROJECTION AND LOCATION OF VENTS MAY BE CHANGED AS DESIRED.

TRUSCON
STEEL COMPANY
Youngstown, Ohio

TYPES AND SIZES
MONUMENTAL STEEL WINDOWS
PROJECTED TYPE - SERIES 15P

PLATE No.
CM-2
OCTOBER, 1934

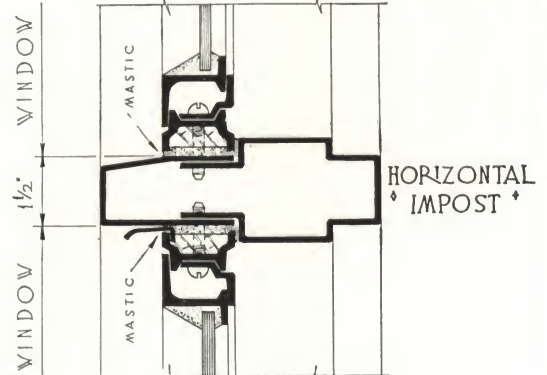
SUB - FRAME INSTALLATION



IMPORTANT
WHEN SWING OUT
VENTS EXTEND TO
HEAD THE SUB -
FRAME SECTION AND
DIMENSIONS WILL
BE THE SAME AS
AT THE JAMB. //

SECTION

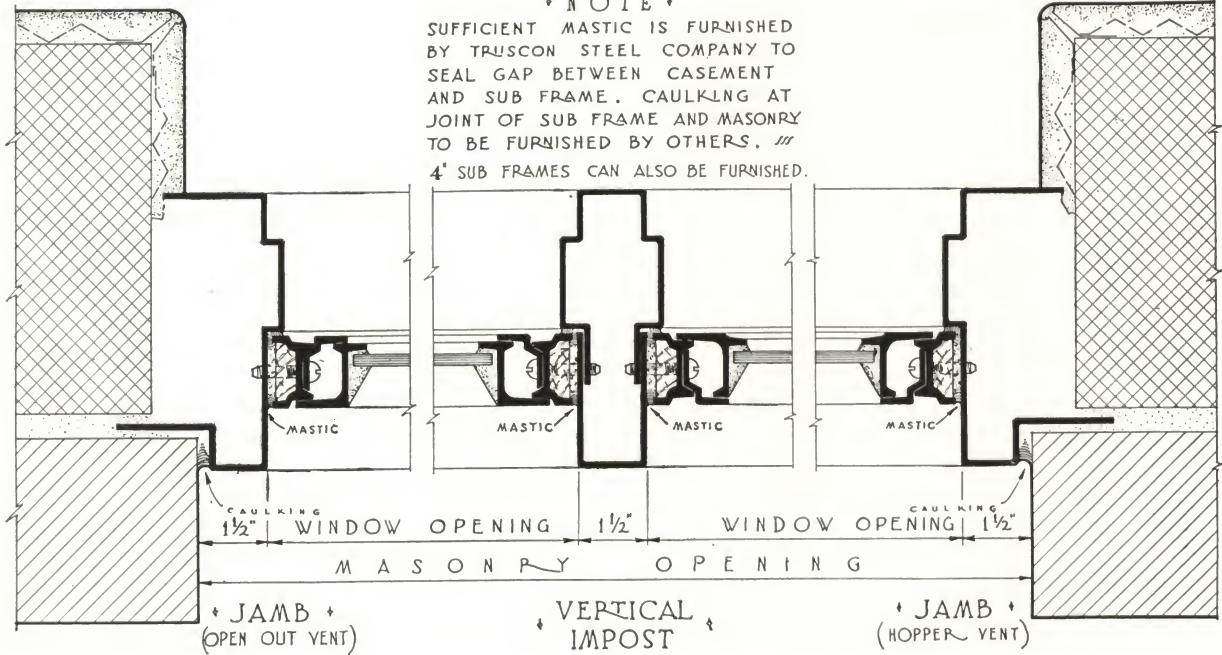
PART ELEVATIONS WITH CASE-
MENT AND PROJECTED SASH.



NOTE

SUFFICIENT MASTIC IS FURNISHED
BY TRUSCON STEEL COMPANY TO
SEAL GAP BETWEEN CASEMENT
AND SUB FRAME. CAULKING AT
JOINT OF SUB FRAME AND MASONRY
TO BE FURNISHED BY OTHERS. //

4" SUB FRAMES CAN ALSO BE FURNISHED.

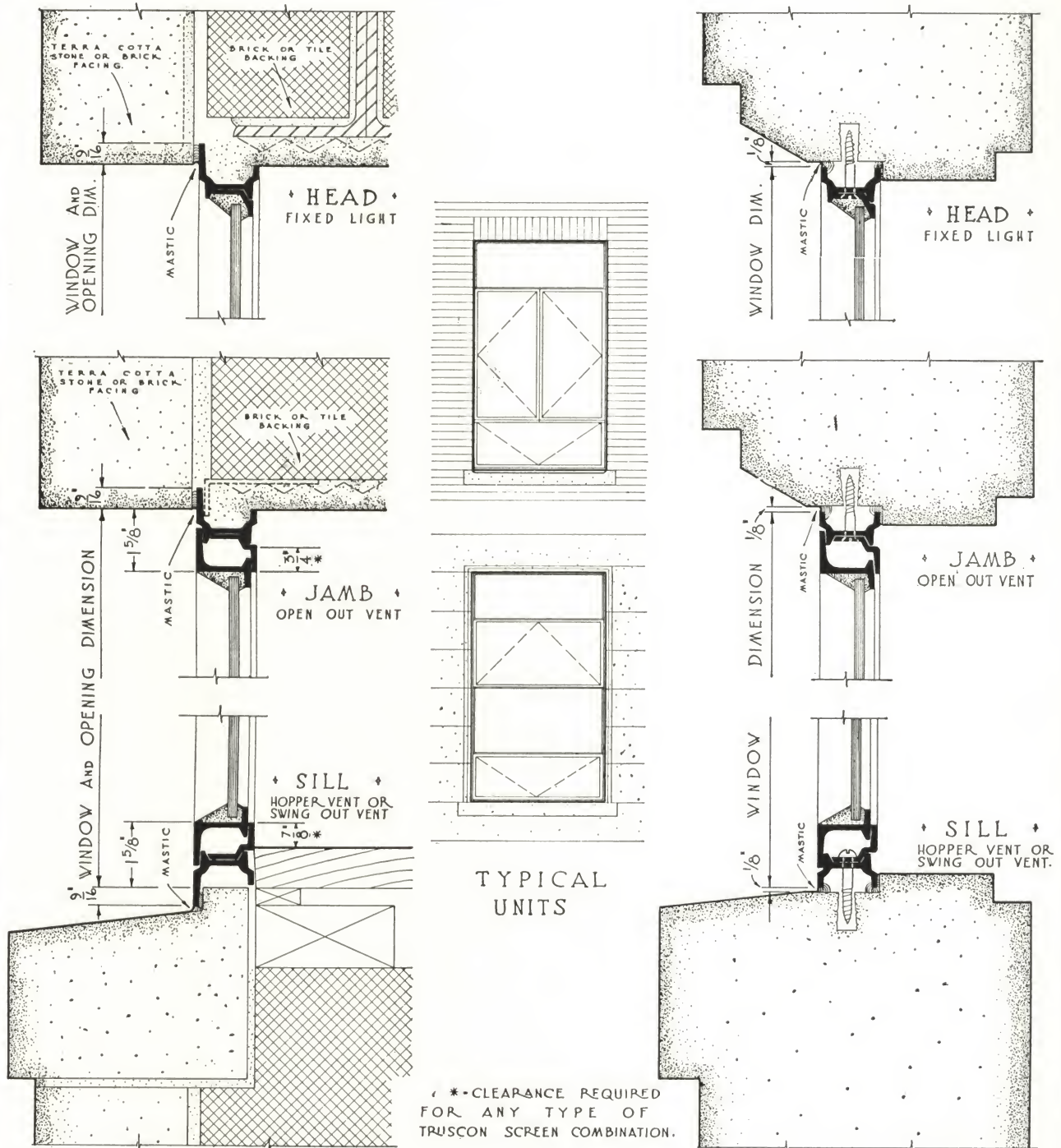


TRUSCON
STEEL COMPANY
Youngstown, Ohio

DETAILS OF 6" SUB-FRAME
MONUMENTAL STEEL WINDOWS
CASEMENT AND PROJECTED TYPES (Series 15C and 15P)

PLATE No.
CM-4
NOVEMBER, 1934

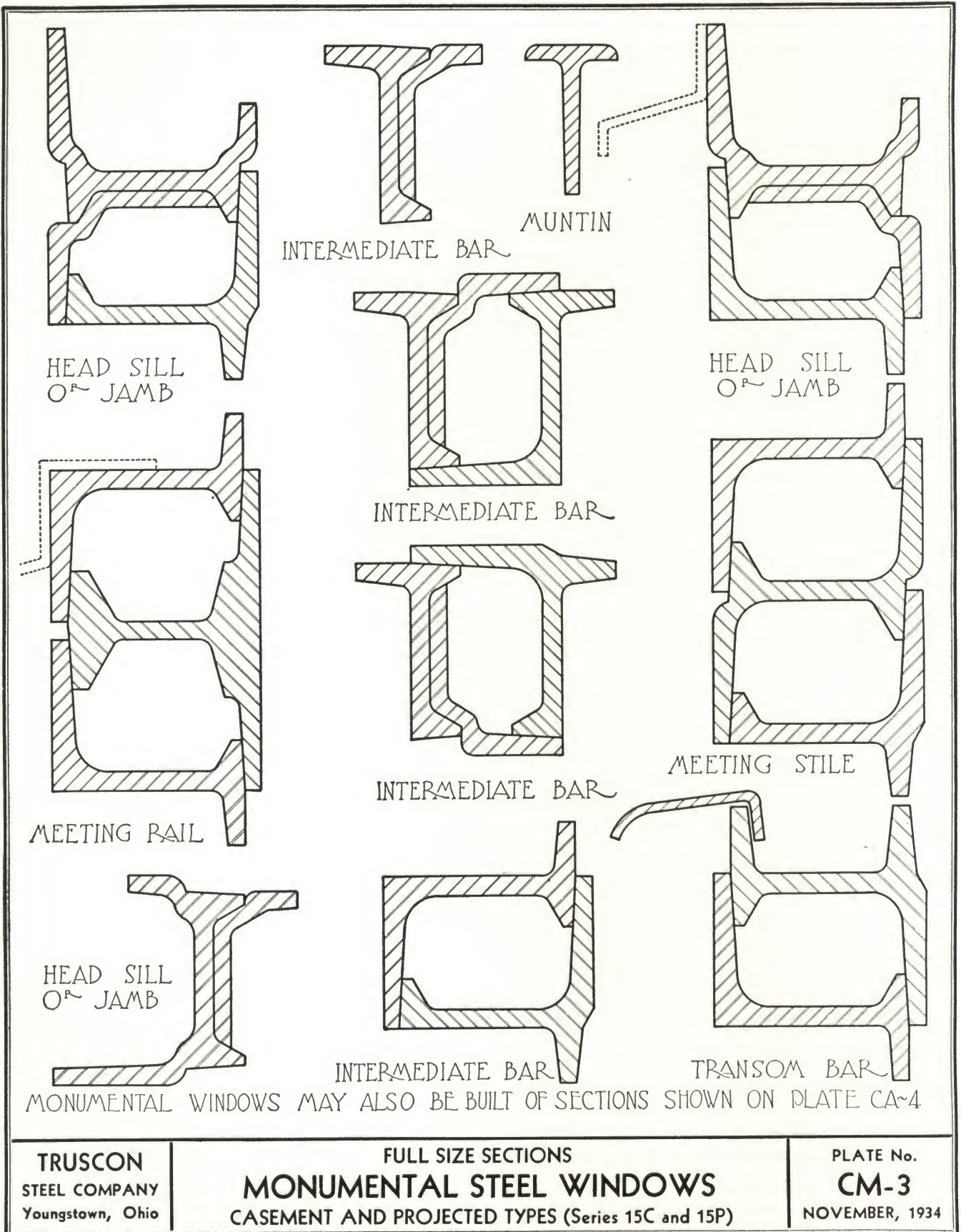
SOLID MASONRY CONSTRUCTION



TRUSCON
STEEL COMPANY
Youngstown, Ohio

MASONRY INSTALLATION
MONUMENTAL STEEL WINDOWS
CASEMENT AND PROJECTED TYPES (SERIES 15C AND 15P)

PLATE No.
CM-5
NOVEMBER, 1934



PARAMOUNT CASEMENTS

SERIES 25

WHERE architectural treatment and ventilation requires exceptionally large swing leaves, Paramount Casements, Series 25, will meet the most exacting architectural specifications.

CONDENSED SPECIFICATIONS

(1) **General**—All openings shall be equipped with Paramount Casement Windows as manufactured by the TRUSCON STEEL COMPANY of Youngstown, Ohio.

(2) **Construction**—(a) Windows shall be custom made and of type, size and design to swing either in or out, as shown on the drawing.

(b) *Major Members* shall be not less than 1½ in. in depth and shall be hot-rolled from new billet steel. The combined weight of frame and swing leaf members shall be not less than 4 lbs. per linear foot.

(c) *All corners* of swing leaves and frames shall be mitered and electrically butt welded and all exposed surfaces ground smooth. Double contact of not less than ⅜ in. shall be provided for weathering on all windows where swing leaves contact frame members.

(3) **Glazing**—Windows shall be furnished with glazing clips for outside putty glazing. When otherwise specified, windows shall be fitted with a solid moulded steel glazing stop for inside glazing. Glazing stops shall be carefully fitted to each light and attached with bronze screws.

(4) **Hardware**—(a) *Unattached Hardware* shall be solid bronze, Old English finish of Truscon standard design. Standard screen type hardware shall be furnished and windows prepared for same when so specified (illustrated on page 35). Unattached hardware shall be packed separately and shipped with windows.

(b) *Swing Leaves* shall be provided with standard extension cleaning hinges, either friction or free swinging types; or with butt hinges, at the option of the architect. All hinges are so designed as to have 100% bronze to steel contact on all pivot points. Windows shall be provided for friction or stay-bar adjuster where free swinging hinges are specified.

(5) **Painting**—Windows after fabrication shall be given one protective coat of standard Truscon paint.

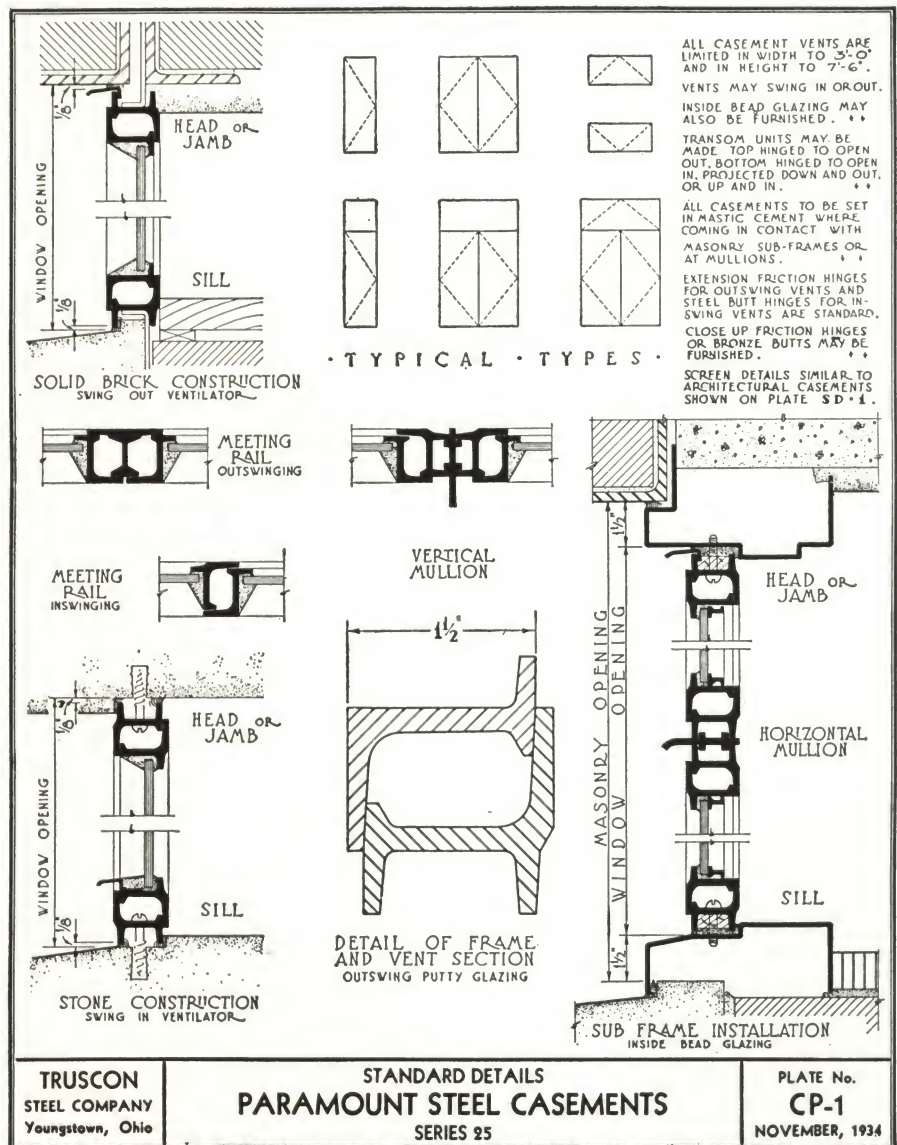
(6) **Erection**—All windows shall be set plumb and true in their respective openings and properly adjusted. All contacts at mullion assemblies and where window frames meet collateral construction shall be made weather-tight with

Truscon mastic cement. All hardware shall be applied in accordance with manufacturer's instructions. (It is recommended that the manufacturer shall erect and adjust the windows. The Erection Division of the TRUSCON STEEL COMPANY will contract to furnish this service.)

Frame members of windows shall be so designed that they can be readily installed in Truscon standard design steel sub frames erected by others. Frame members shall also be prepared to accept standard fins so that windows may be built-in with the construction.

UNDERWRITERS' LABEL

Underwriters' label of approval may be specified for units not exceeding 6 ft. 6 in. in width and height and providing side hinged vents do not exceed 2 ft. 6 in. x 6 ft. 0 in. and other vents 5 ft. 0 in. x 2 ft. 6 in. Glass lights are also limited to 350 square inches if putty glazed and 155 square inches if bead glazed.



PROJECTED WINDOWS

DESIGNED for appearance as well as practicability. The architect has a wide range of types to choose from, thereby enabling him to use standard types and take advantage of their economy.

The outside frame is a solid heavy channel, giving great strength. Rigidity in the ventilator is secured by the use of a heavy solid angle section mortised and tenoned and also welded at the corners. The ventilator frame is rolled with integral baffle, similar in design used on highest quality casements.

Solid bronze hardware is standard for these windows and the quality and design are in keeping with the word "Architectural."

Windows with inside glazing angles are standard. Windows arranged for outside glazing with putty can be furnished at a saving in cost.

Projecting ventilators permit easy cleaning from the inside.

Weather-tightness is assured by the rigid construction of the window and the Truscon double contact weathering.

CONSTRUCTION DETAILS

(1) **Forged Brass Sliding Pivot Friction Shoe**—Shoe mounted on $\frac{1}{8}$ in. flat cadmium plated spring steel $1 \times 4\frac{1}{8}$ in. securely riveted to stiles of vent.

(2) **Bronze Pole Hook Ring**—Allowing operation of out-swinging ventilators with window pole.

(3) **Brass Bushed Pivoted Arms**— $\frac{3}{16} \times 1$ in. supporting arms for ventilator are concealed when ventilator is closed.

(4) **Locking Handle and Strike for Outward Projecting Vents**—Artistically designed handle and strike plate of solid bronze close and lock the window securely.

(5) **Weathering Section at Sill**—Weather-tightness at sill of ventilator is assured when window is closed by large double contact at this point.

(6) **Locking Handle and Strike for Inward Projecting Vents**—Solid bronze.

(7) **Weathering Section at Meeting Rail**—Proper weathering contact through sill of out-swinging and head of in-swinging ventilators at all times when vent is closed.

(8) **Ventilator Frame**—Rigid angle section, mortised and tenoned, electrically welded.

(9) **Weathering Section at Jambs**—Double contact at jambs, sills and head of ventilator, completes proper weathering for entire ventilator.

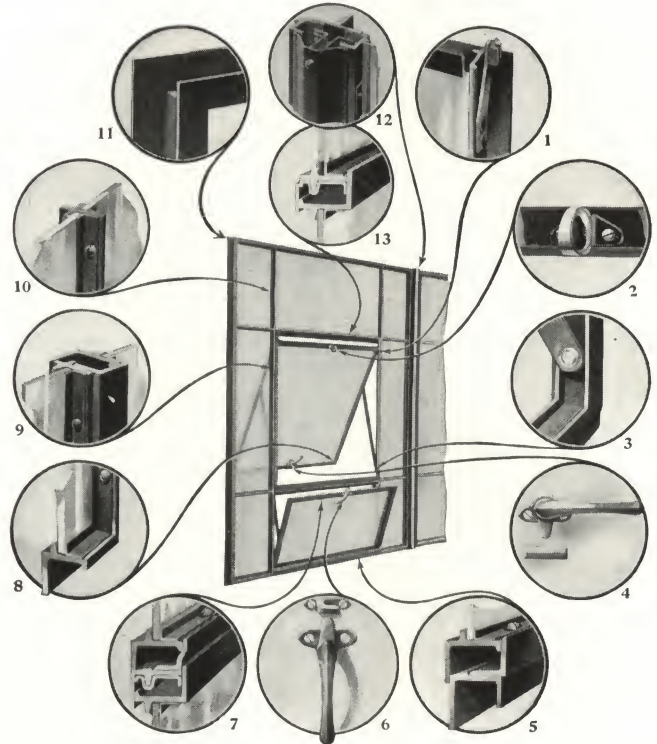
(10) **Metal Glazing Angles**—Glass is bedded in Truscon Steel Window putty and held in place with glazing angles attached to sash with brass bolts.

(11) **Corners**—Heavy frame members of unequal leg channels are mortised and tenoned, electrically welded.

(12) **Vertical Mullions**—Exterior Tee Bar to give necessary rigidity, with pressed metal interior cover to give pleasing appearance.

(13) **Weathering Section at Head**—Head of out-swinging ventilator provides contact at two points.

ARCHITECTURAL TYPE



CONDENSED SPECIFICATIONS

(1) **General**—All windows so indicated on the plans and elevations and called for in these specifications shall be the Architectural Projected Type as manufactured by the TRUSCON STEEL COMPANY of Youngstown, Ohio.

(2) **Construction**—All joints shall be mortise and tenoned, and air-hammer riveted.

(a) *Corners of all ventilators and sash shall be welded.*

(b) *The intersection of horizontal and vertical muntins shall have a dovetail miter, rigidly interlocking the bars.*

(c) *No excess metal or projecting surfaces shall be permitted where muntin bars intersect.*

(d) *Muntin bars except where ventilators occur shall be continuous from head to sill and from jamb to jamb.*

(e) *Ventilators shall have double contact weathering on all four sides.*

(f) *The sliding pivots shall be constructed of forged brass.*

(g) *The outside section of the window shall be a heavy, solid hot-rolled new billet steel channel (210-A or 210-B section).*

(h) *The side of the window frame shall act as a guide for the sliding pivot with no recess or slot.*

(j) *Uniform tension to hold ventilators in any position by the use of springs applied between sliding pivot and ventilator.*

(k) *There shall be two heavy supporting arms attached to the ventilator and frame designed to be concealed when ventilator is closed. The rivet holes in supporting arms shall have brass bushing.*

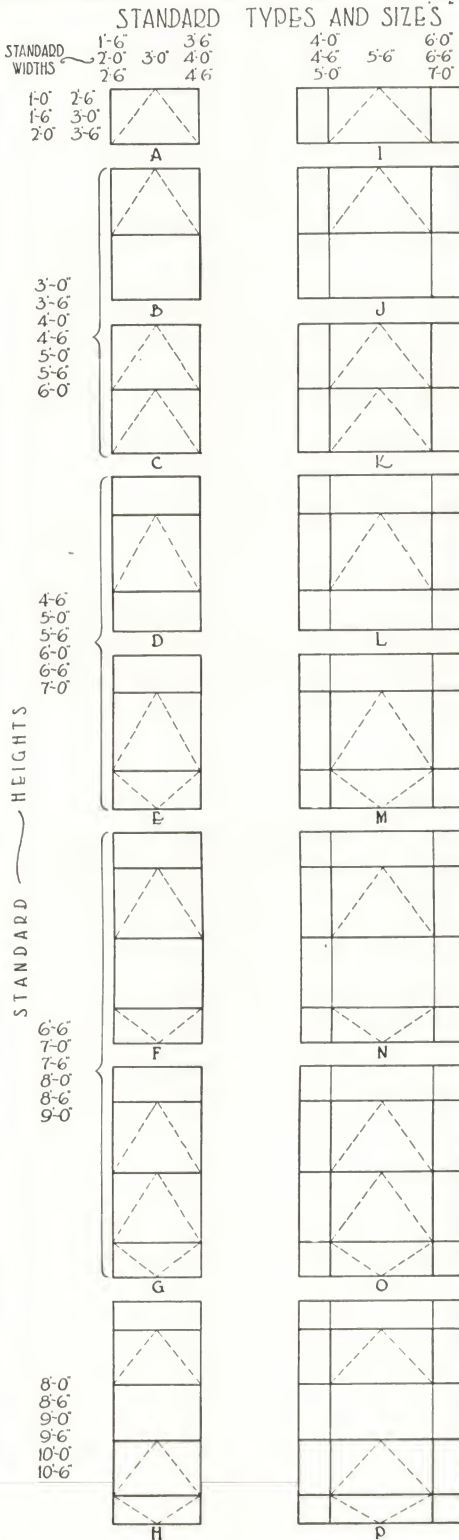
(l) *Ventilators Projected Out or In shall have no part of ventilator projecting beyond the normal plane of the windows.*

(3) **Finished Hardware**—Shall be bronze throughout.

(4) **Painting**—All windows shall be given one coat of protecting paint before shipment.

UNDERWRITERS' LABEL

Underwriters' label of approval may be specified for all standard sizes shown and special sizes up to 7 ft. width by 12 ft. in height. *Windows must be inside angle glazed.* Maximum glass size is 350 square inches.



DIMENSIONS OF TYPES SHOWN ARE MASONRY OPENING DIMENSIONS. FOR TYPICAL DETAILS SEE PLATES B22, B23 & B30.

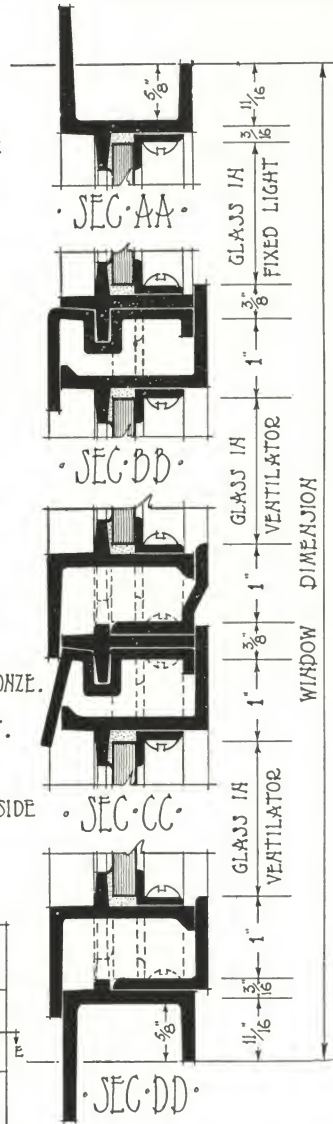
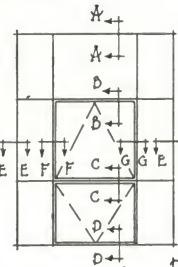
UNITS MAY BE COMBINED WITH MULLIONS SHOWN ON PLATES B22 & B23 TO FILL OPENINGS OF ANY WIDTH. TO OBTAIN WIDTH OF OPENING ADD 2" FOR EACH MULLION REQUIRED.

STANDARD HARDWARE SOLID BRONZE.

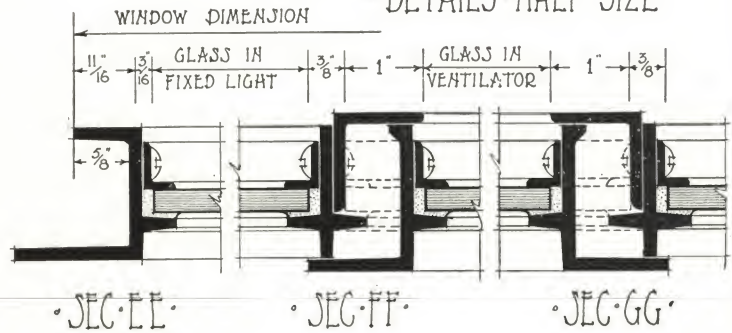
- INDICATES VENTS OPENING OUT.
- INDICATES VENTS OPENING IN.

SASH CAN BE FURNISHED INSIDE OR OUTSIDE PUTTY GLAZED OMITTING GLAZING ANGLES

TYPICAL WINDOW LAYOUT INDICATING SECTION LOCATIONS



DETAILS - HALF SIZE



TRUSCON
STEEL COMPANY
Youngstown, Ohio

STANDARD TYPES — SIZES — DETAILS
ARCHITECTURAL PROJECTED STEEL WINDOWS

PLATE No.
B-21
OCTOBER, 1935

PROJECTED WINDOWS

WHERE neat design and economy are the keynote of the construction, architects will appreciate the quality, appearance, performance and low cost of these windows.

They are widely used in buildings where low cost is essential. The projected feature is especially valuable when ventilation depends upon the natural clearing off of vapor, smoke and stale air. The tilted ventilator acts as a deflector of the elements and can be kept open in all kinds of weather. Direct drafts are eliminated and a continuous change of air is obtained. Projecting ventilators make possible ready cleaning from the inside.

Because of the similarity between the appearance of the Commercial Projected and Pivoted Windows, the Projected Windows can be used in the office section of an industrial plant with complete conformity to the general design.

Thirty-two standard types of Commercial Projected Window, as shown on page 46 are available in either 12x18 in. or 14x20 in. glass size, many of which are carried in warehouse stocks.

SCREENS

Ventilators projecting inwardly with fixed flat screens on outside are the most practicable and economical. However, top hinged screens can be furnished for ventilators projecting outwardly or fixed screens can be used in connection with under-screen push bar hardware.

EXPLOSION HARDWARE

Explosion type hardware conforming to specifications of Associated Mutual Fire Insurance Company can be furnished at unincreased cost over standard hardware for outwardly opening projected ventilators. This hardware operated either by pole or chain allows the ventilator to open automatically in case of explosion.

CONDENSED SPECIFICATIONS

(1) **General**—All windows so indicated on the plans and elevations and called for in these specifications shall be the Commercial Projected type as manufactured by the TRUSCON STEEL COMPANY of Youngstown, Ohio.

(2) **Construction**—(a) All joints shall be mortised and tenoned and air-hammer riveted.

(b) The intersection of *Horizontal and Vertical Muntins* shall have a dovetail mitre, rigidly interlocking the bars.

(c) No *Excess Metal* or projecting surfaces shall be permitted where muntin bars intersect.

(d) *Muntin Bars*, except where ventilators occur, shall be continuous from head to sill and from jamb to jamb.

(e) *Ventilators* shall have double contact weathering on all four sides.

(f) The *Sliding Pivot* shall be constructed of forged brass.

(g) The side of the window frame shall act as a *Guide* for the sliding pivot, and shall be constructed without recess or slot.

(h) *Uniform Tension* to hold ventilator in any desired position shall be gained by the use of a spring applied between sliding pivot and ventilator.

(j) There shall be two heavy *Supporting Arms* attached to the ventilator and frame, designed to be concealed when ventilator is closed. The rivet holes in supporting arms shall have brass bushings.

(k) *Ventilators Projected Out*, when open, shall have no part of the ventilator projecting inside the normal plane of the window.

(l) *Ventilators Projected In* shall not project outside the normal plane of the window.

(3) **Finished Hardware**—Shall be malleable iron, cadmium plated.

Note: Bronze hardware can be furnished if required.

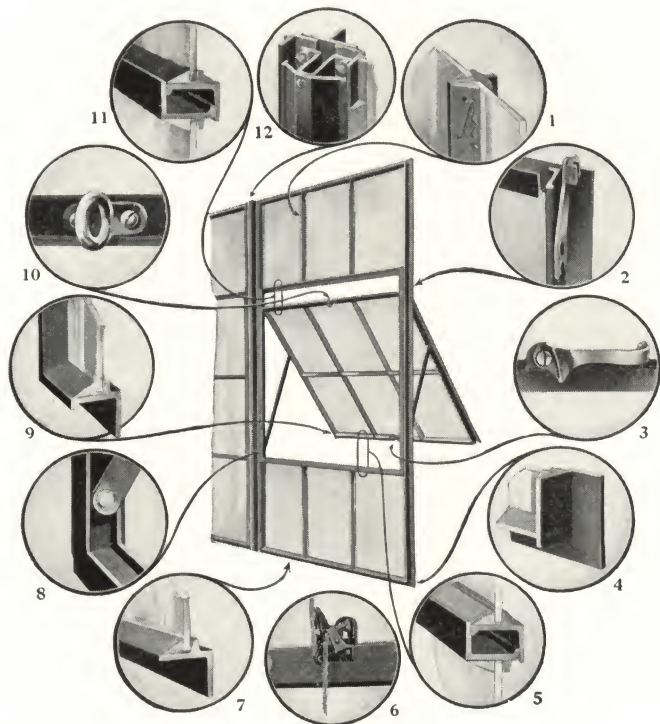
(4) **Painting**—All windows shall be given one coat of Truscon Protective Paint before shipment.

UNDERWRITERS' LABEL

Underwriters' label of approval may be specified for all standard sizes shown and special sizes up to 7 ft. 0 in. in width by 12 ft. 0 in. in height, *must be inside angle glazed*. Maximum glass size is 350 square inches.

[For Standard Types and Sizes, see Page 46]

COMMERCIAL TYPE



CONSTRUCTION DETAILS

(1) **Glazing**—Glass bed and face puttied and held in place with clips; staggered holes and flexible clips allow various thicknesses of glass. Use steel window putty. Ordinary putty will not harden satisfactorily.

(2) **Forged Brass Sliding Friction Shoe**—Shoe mounted on flat heavy type tension spring which is securely riveted to stiles of vent, assuring proper friction at all times.

(3) **Locking Handle**—Artistically designed handle of malleable iron cadmium plated is properly placed and is to be securely fastened to sash members. (Bronze at slight additional cost.)

(4) **Corner Construction**—Heavy frame angle members are mortised, tenoned, and air hammered.

(5) **New Ventilator Section**—Ventilator section now rolled with baffle. Baffle increases contact margin and assures better weather tightness.

(6) **Automatic Chain Latch**—Automatic kick-out allows operation by chain of ventilator out of reach from floor.

(7) **Frame**—Heavy angle section at head, sill and jambs, mortised, tenoned and air hammered.

(8) **Heavy Brass Bushed Pivot**— $\frac{3}{8}$ x1 in. supporting arms for ventilator are concealed when ventilator is closed. They are properly fastened to insure easy and accurate operation.

(9) **Ventilator Frame Corner**—Heavy, rigid angle section, mortised and tenoned and air hammer riveted.

(10) **Pole Hook Ring**—To be used in conjunction with cam handle for operation of out-swing ventilators, when out of reach from the floor, with window pole.

(11) **New Ventilator Section**—Head of out-swing ventilator provides double contact at two points. Baffle increases contact margin and assures better weather tightness.

(12) **Vertical Mullion**—Exterior Tee Bar to give necessary rigidity, with pressed metal cover on the inside to give pleasing appearance. (Mullion covers extra.)

PIVOTED WINDOWS

ADAPTABLE to all types of industrial and manufacturing buildings including warehouse, factory and storage buildings, garages, filling stations, etc., and especially desirable when a great deal of light is needed. The slender but strong and rigid steel muntin bars admit the maximum of light to the interior. They are permanent, fireproof, never stick or warp and open or close easily regardless of climatic conditions.

Pivoted Windows are made of heavy, hot-rolled rust-resisting, steel sections. The outside section is of angle shape to allow $\frac{5}{8}$ in. anchorage at the masonry or mullion connection. The intersection of the horizontal and vertical muntin is a dovetail mitre rigidly interlocking the bars. Double contact weathering is provided on all four sides of ventilator.

Glass size in stationary portion of sash 12x18 in., or 14x20 in. All lights at top and bottom of ventilator are 1 in. shorter and all lights at sides of ventilators are 1 in. narrower than in stationary portion of windows.

Truscon Pivoted Steel Windows are made in a wide range of sizes to fill practically all building needs. Twenty-one types of sash illustrated shaded in diagram are available for quick delivery from stocks. They can be combined with standard mullions to fit almost any size of window opening. All windows are given one dip coat of protective paint at factory.

SCREENS

For economical screened openings we recommend commercial projected windows. See page 44.

CONDENSED SPECIFICATIONS

(1) **General**—All windows so indicated on the plans and elevations and called for in these specifications shall be the Horizontally Pivoted type as manufactured by the TRUSCON STEEL COMPANY of Youngstown, Ohio.

(2) **Construction**—(a) All members shall be constructed from Truscon specification, hot-rolled, new billet steel.

(b) All joints shall be mortise and tenon, and air-hammer riveted.

(c) Top and bottom rails of ventilators shall be cambered in shop before being fitted to windows.

(3) **Mullions**—(a) Where two or more window units, less than 6 ft. 3 in. in height, are used in the same opening, they shall be connected with Truscon Standard Plate Mullions (Type T-1).

(b) For window units over 6 ft. 3 in. high, and up to and including 10 ft. $3\frac{3}{8}$ in. high Truscon Standard T-Bar mullions (Type T-2) shall be used.

(c) For all window openings over 10 ft. $3\frac{3}{8}$ in. in height, Truscon Standard Double T-Bar Mullions (Type T-3) shall be used.

(4) **Hardware**—All ventilators shall be equipped with either push bar, cam latch or spring latch and chain, as marked on drawings; all iron and steel hardware except push bars to be cadmium plated before shipment, push bars are painted.

(5) **Mechanical Operator**—All runs of ventilators, shown on drawings as "mechanically controlled," shall be equipped with torsion or other approved type of operator, as manufactured by the TRUSCON STEEL COMPANY.

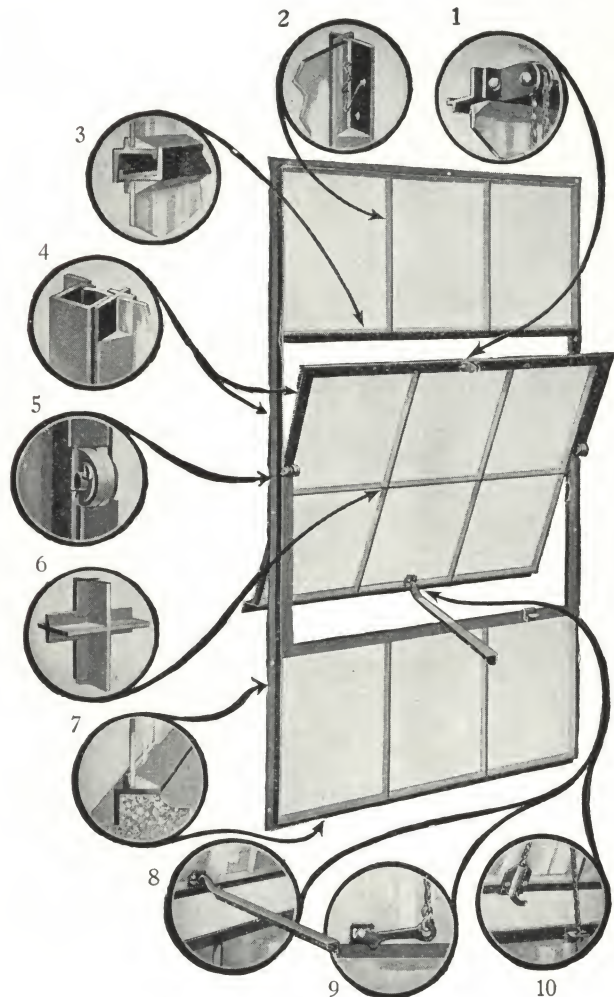
(6) **Painting**—All window units shall be given a dip coat of protective paint before shipment.

(7) **Glazing**—All standard windows shall be glazed on the inside and glass shall be held in place by Truscon steel wire glazing clips.

UNDERWRITERS' LABEL

Underwriters' label of approval may be specified for all standard sizes shown and special sizes up to 7 ft. 0 in. in width by 12 ft. 0 in. in height, *must be inside angle glazed*. Maximum glass size is 350 square inches.

[For Standard Types and Sizes see Page 46]



CONSTRUCTION DETAILS

(1) **Roller Bracket at Head of Ventilator**—Used with chain operators.

(2) **Spring Steel Wire Glazing Clips**.

(3) **Double Contact Weathering at Head**. Note baffle rolled integral with section.

(4) **Double Contact Weathering at Jamb**.

(5) **Solid Steel Pivot with Removable Pin**—Assures easy operation and durability.

(6) **Dovetail Miter Joints at Muntin Intersections**—Joints are skillfully fitted together and assure great strength and rigidity.

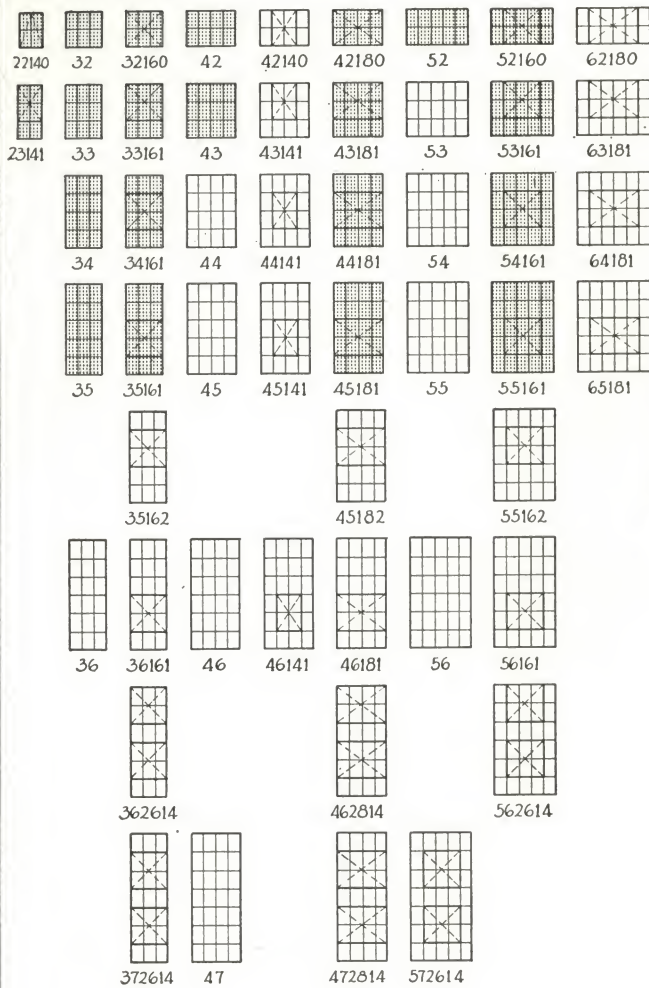
(7) **Heavy Angle Section at Head, Sill and Jamb**—Provides positive anchorage in masonry or mullion connections.

(8) **Cam Acting Push Bar**—Notched to engage edge of weathering member at bottom of ventilator and hold it open at any desired angle. The ventilator is securely locked by folding push bar back against sash and engaging in the cleat.

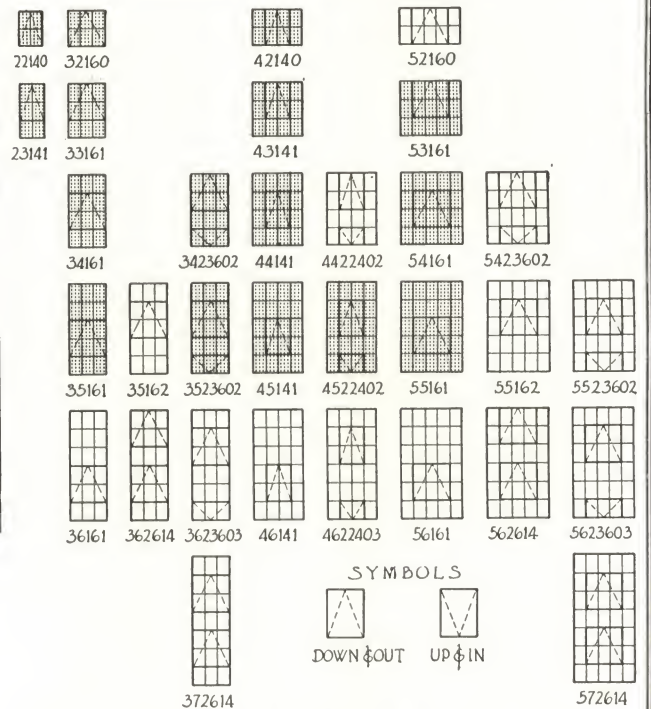
(9) **Gravity Cam Latch and Chain**—Attached to bracket at sill of ventilator and securely held with a locking nut. A pull of the chain releases the cam latch and opens ventilator.

(10) **Spring Latch and Chain**—For use when ventilator cannot be reached from floor.

PIVOTED TYPE
12"×16" AND 14"×20" GLASS SIZE



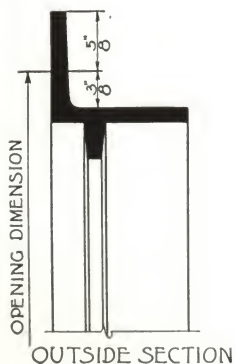
PROJECTED TYPE
12"×18" AND 14"×20" GLASS SIZE



SYMBOLS
DOWN & OUT UP & IN

NOTES

SHADED UNITS ARE WAREHOUSE STOCK TYPES.
PIVOTED VENTS ARE HORIZONTALLY PIVOTED 2" ABOVE CENTER. PROJECTED VENTS MAY BE SPECIFIED TO PROJECT DOWN AND OUT OR UP AND IN.*
GLASS SIZES INDICATED ARE FOR FIXED LIGHTS ONLY. GLASS LIGHTS IN VENTILATORS MUST BE CUT AS SHOWN IN GLASS SIZE DIAGRAMS APPEARING BELOW.
WINDOWS MAY BE COMBINED TO FILL OPENINGS OF ANY WIDTH BY MEANS OF MULLIONS, THE WIDTH OF THE OPENING BEING THE SUM OF THE INDIVIDUAL SASH DIMENSIONS PLUS 2" FOR EACH MULLION ADDED.
ALL TYPES SHOWN ARE PUNCHED FOR MULLION BARS.
*VENTS OF WINDOWS CARRIED IN STOCK PROJECT ONLY AS SHOWN.



11'-17"	12'-17"	12'-17"	12'-17"
11'-17"	12'-17"	12'-17"	12'-17"
12'-18"	12'-18"	12'-18"	12'-18"

13'-19"	14'-19"	14'-19"	13'-19"
13'-19"	14'-19"	14'-19"	13'-19"
14'-20"	14'-20"	14'-20"	14'-20"

GLASS SIZES FOR STANDARD PIVOTED WINDOWS

OPENING DIMENSIONS					
LIGHTS	GLASS WIDTH		LIGHTS	GLASS HEIGHT	
	WIDE		HIGH		
2	12"	14"	18"	20"	
3	2'-1 5/8"	2'-5 3/8"	3'-1 5/8"	3'-5 3/8"	
4	3'-2"	3'-8"	4'-8"	5'-2"	
5	4'-2 3/4"	4'-10 3/4"	6'-2 3/4"	6'-10 3/4"	
6	5'-2 3/4"	6'-0 3/4"	7'-8 3/4"	8'-6 3/4"	
7	6'-3 1/4"	7'-3 3/8"	9'-3 3/8"	10'-3 3/8"	

12'-18"	12'-18"	12'-18"	12'-18"	12'-18"
12'-18"	11'-17"	12'-17"	11'-17"	12'-18"
12'-18"	11'-17"	12'-17"	11'-17"	12'-18"
12'-18"	12'-18"	12'-18"	12'-18"	12'-18"

14'-20"	14'-20"	14'-20"	14'-20"	14'-20"
14'-20"	13'-19"	14'-19"	13'-19"	14'-20"
14'-20"	13'-19"	14'-19"	13'-19"	14'-20"
14'-20"	14'-20"	14'-20"	14'-20"	14'-20"

GLASS SIZES FOR STANDARD COMMERCIAL PROJECTED WINDOWS

TRUSCON
STEEL COMPANY
Youngstown, Ohio

TYPES AND SIZES
PIVOTED AND COMMERCIAL PROJECTED
STEEL WINDOWS

PLATE No.
A-1-B
NOVEMBER, 1935

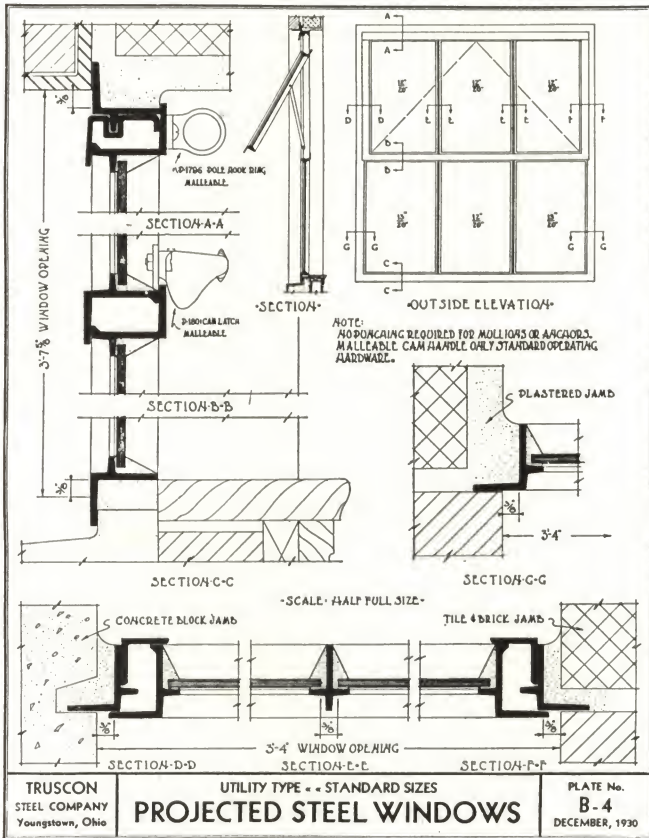
UTILITY WINDOWS



TRUSCON Utility Steel Windows are ideal for use in buildings such as garages, filling stations, stores, shops, basements, area-ways, etc. The ventilator is a balanced projecting type which in opening swings down and out leaving the interior entirely unobstructed.

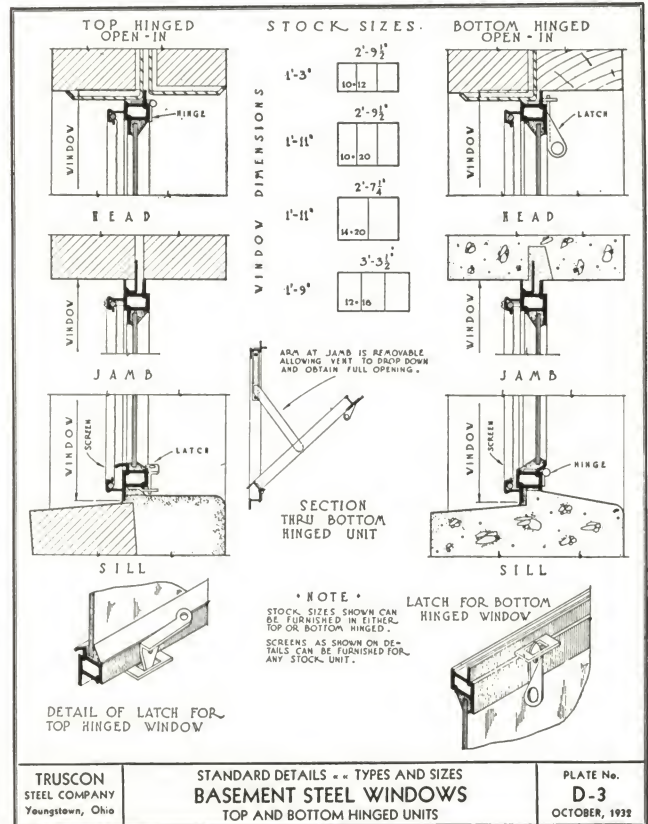
Utility Steel Windows are furnished in only one size—3 ft. 4 in. wide by 3 ft. 7 $\frac{7}{8}$ in. high.

Glass size in fixed portion of sash is 13 in. x 20 in. in the two outside lights and 12x20 in. in center fixed light. The glass size of lights in the ventilator is 12 in. x 20 in.



BASEMENT WINDOWS

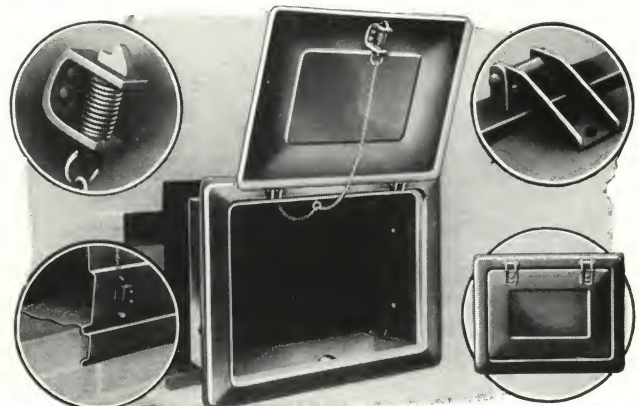
BASEMENT Windows are made either with the hinge at the top or at the bottom, both types having the same sizes and both opening in. The bottom-hinged window has an arm to limit the opening. They are furnished complete with hardware. Steel frame screens with accessories for attachment are available.



COAL CHUTES PRESSED STEEL

WEATHER-TIGHT and fool-proof. The door and frame design develops maximum strength while keeping the weight of the unit to a minimum. The entire frame is electrically welded into one unit.

Two Standard Sizes—Frame, 27x21 $\frac{1}{4}$ in. Door opening, 22 $\frac{1}{2}$ x16 $\frac{3}{4}$ in. Depths, 8 or 12 in. Weights, 33 or 39 lbs.



LINTELS

PRESSED STEEL

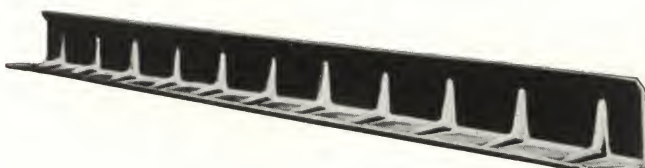
THE turned edges provide a proper mortar bed, and cross ribs placed at proper intervals give the maximum degree of rigidity to the lintel and ample support to the masonry above it. Lintels can be used in single or in multiple units.

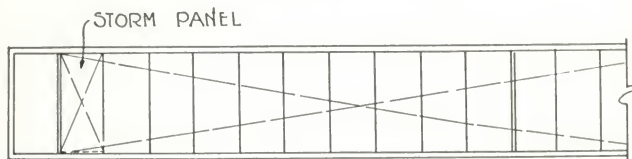
3 $\frac{1}{2}$ x3 $\frac{1}{2}$ in. x 11 gauge, weight 2.7 lb. per lin. ft.

Standard lengths: 2 ft. 6 in., 3 ft., 3 ft. 6 in., 4 ft., 4 ft. 6 in.

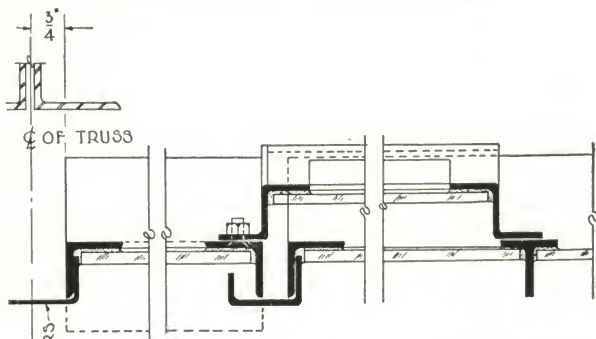
4x4 in. x 9 gauge, weight 3.90 lb. per lin. ft.

Standard lengths: 5 ft., 5 ft. 6 in., 6 ft., 6 ft. 6 in., 7 ft.

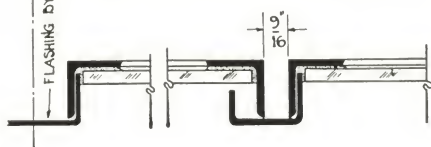




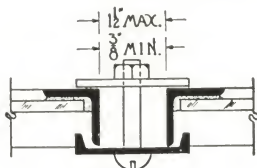
OUTSIDE ELEVATION



TYPICAL END SECTION SHOWING END AND STORM PANEL



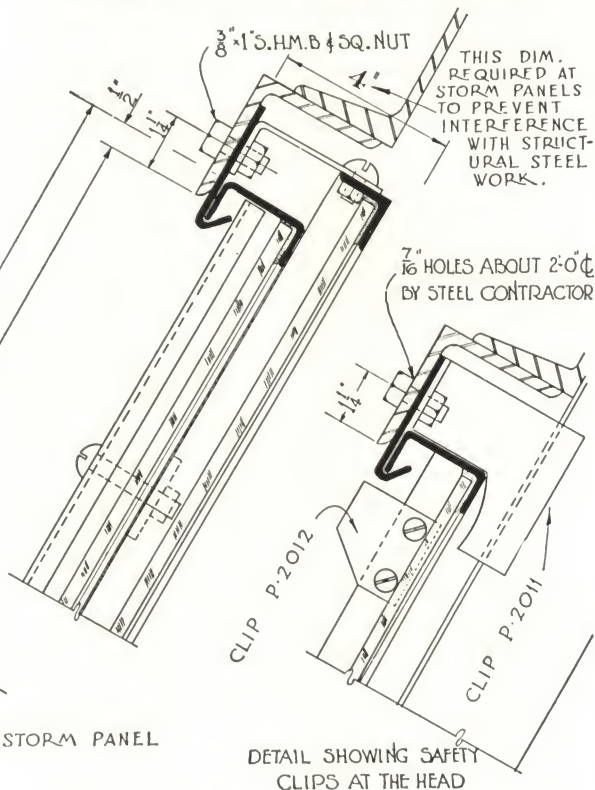
END CONDITION WHERE STORM PANELS ARE OMITTED



MULLION
ADJUSTABLE TO ALLOW FOR
VARIATION IN STRUCTURAL
STEEL WORK.

SECTION SHOWING SWING SASH
AND STORM PANEL.
SASH CAN BE HUNG IN EITHER VERT-
ICAL OR SLANTED POSITION.

HEIGHT OF OPENINGS	HEIGHT OF SASH	GLASS SIZES		
		STANDARD PANELS	END PANELS	STORM PANELS
2'-10 1/2"	3'-0"	23 3/8" x 32 1/4"	22 3/8" x 32 1/4"	23 3/8" x 32 1/4"
3'-10 1/2"	4'-0"	23 3/8" x 44 3/4"	22 3/8" x 44 3/4"	23 3/8" x 44 3/4"
4'-10 1/2"	5'-0"	23 3/8" x 56 3/4"	22 3/8" x 56 3/4"	23 3/8" x 56 3/4"
5'-10 1/2"	6'-0"	23 3/8" x 68 3/4"	22 3/8" x 68 3/4"	23 3/8" x 68 3/4"



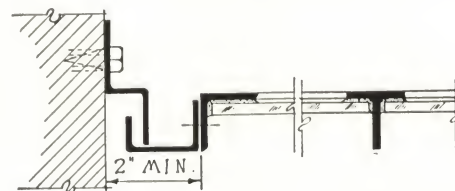
THIS DIM.
REQUIRED AT
STORM PANELS
TO PREVENT
INTERFERENCE
WITH STRUCT-
URAL STEEL
WORK.

7" ⁹/₁₆" HOLES ABOUT 2'-0" ϕ
BY STEEL CONTRACTOR

CLIP P-2012

CLIP P-2011

DETAIL SHOWING SAFETY
CLIPS AT THE HEAD



TYPICAL END SECTION SHOWING
SWING SASH EXTENDING TO JAMB

~NOTES~

STANDARD UNITS OF TRUSCON CONTINUOUS SASH
ARE DESIGNED FOR TRUSS SPACING OF 20'-0" ON
CENTER. HOWEVER THEY MAY BE COMBINED TO
FILL OPENINGS ANY WIDTH OR HEIGHT.

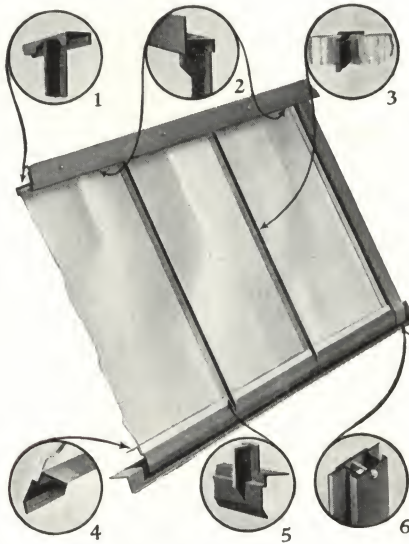
TRUSCON
STEEL COMPANY
Youngstown, Ohio

STANDARD DETAILS
CONTINUOUS STEEL WINDOWS

PLATE No.
E-7
OCTOBER, 1932

CONTINUOUS WINDOWS

IDEALLY suited for use in industrial plants where the nature of the factory work requires frequent and rapid ventilation of the building. They are also most practical for any buildings having monitors or saw-tooth faces, or where banks of windows reach considerable heights, necessitating remote control for operation. Particularly valuable where large areas are enclosed which cannot be satisfactorily lighted through the side walls.



The scientific application of Continuous Windows to a building insures maximum daylight and gives absolute control of temperature and ventilation, resulting in a marked effect on increased efficiency and reduction of production costs. The quick opening and closing of glass areas by mechanical operation is invaluable to clear out gases, smoke and excessive heat and to protect against sudden change in weather.

CONSTRUCTION DETAILS

(1) **Welded Mortise and Tenon Joint**—Prevents twisting.

(2) **Hinge Member**—Forms continuous bearing giving perfect weathering.

(3) **Glazing Clips**—Of heavy brass on vertical muntin bars.

(4) **Wide Flange**—Adds lateral stiffness to window. For the attachment of mechanical operator.

(5) **Mortise and Tenon Joint**—Welded joint.

(6) **Vertical Expansion Mullion**.

PRESSED STEEL FRAMES—Particularly well adapted for use in modern structures where the effect of massive strength must be accurately met. Made of heavy gauge steel, absolutely uniform and economical. Details furnished on request.

MECHANICAL OPERATORS

TRUSCON is confident that its many years' experience in solving the problems of daylighting and ventilation through the medium of a complete line of steel windows has placed it in an enviable position to design and manufacture efficient and dependable mechanical window operators.

Operators for opening and closing Continuous, Pivoted and

Projected types of windows are available in either hand or motor operated units. They are made in various designs and capacities to meet the requirements of any job. On this and the following page are illustrated a few representative types of operators designed and manufactured by TRUSCON STEEL COMPANY.

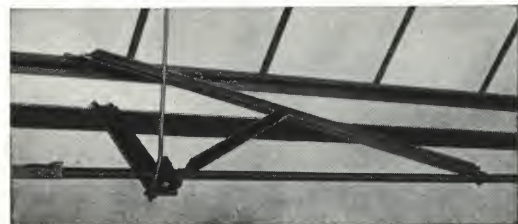
We offer the services of our engineering department to assist you in working out problems of operator design or installation. Truscon maintains offices in all key cities for your convenience.

CONTINUOUS WINDOW OPERATOR:

The operator illustrated below is of the tension toggle type and is used to operate long runs of Continuous windows. For short runs, Rack and Pinion type may be used due to lighter loads.



At the left is illustrated P-750 Hand Chain Operated Power for Tension Toggle operation of medium length runs. This power can be motorized conveniently when electrical control is desired. For longer runs, CP-69 Light Duplex Power, or CP-83 Heavy Duplex Power is recommended. Powers CP-69 and CP-83 must be motorized.



Tension Toggle Arms as illustrated above are made in four sizes to suit the different standard heights of continuous windows.

WORM AND GEAR OPERATORS

ILLUSTRATED below is worm and gear operator, hand chain controlled, which operates a torsion shaft with lever arms to actuate one or more tiers of horizontal pivoted ventilators. Vertical shaft with miter gear and hand wheel can be used instead of hand chain.

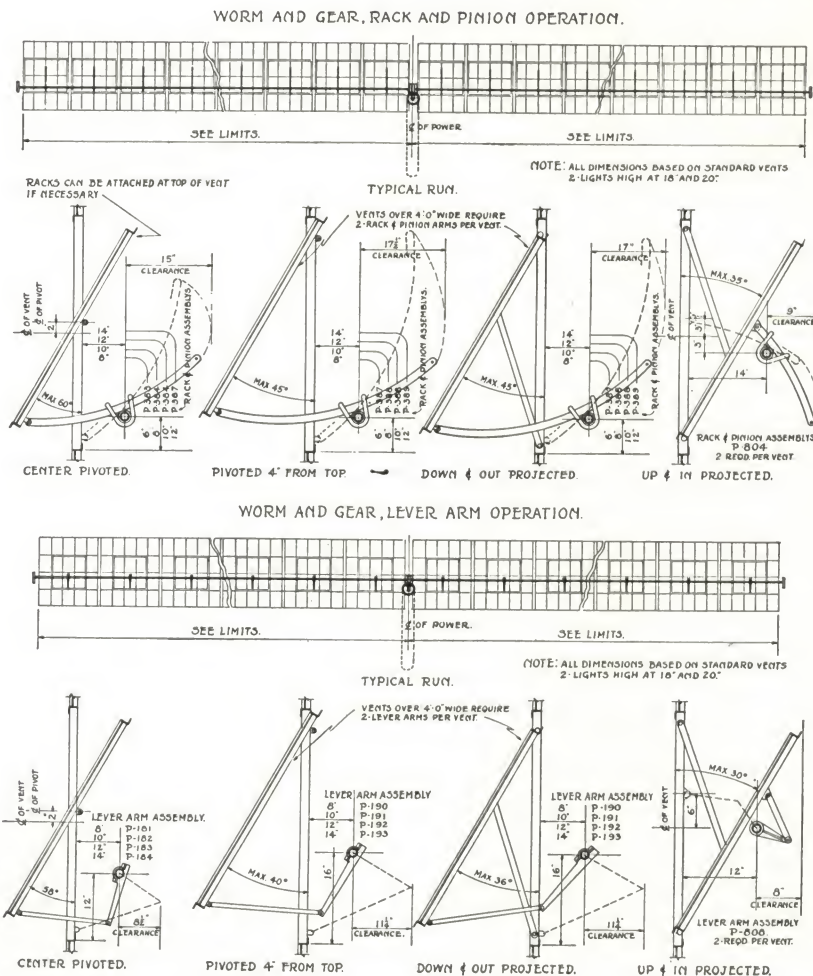
The worm and gear is fully enclosed and runs in oil tight housing.



Typical Illustration of Worm and Gear Lever Arm Operating Horizontally Pivoted Windows



Typical Illustration of Rack and Pinion Operation of Outward Opening Projected Windows



SILENTAIRE

Reg. U. S. Pat. Off.

Silentaire muffles street noises and at the same time provides ventilation without draft. The muffling of noise and the flow of air are made possible by the scientific construction and special acoustical controls

so that the effect, when installed, is that of a closed window from the standpoint of noise elimination, and of an open window from the standpoint of ventilation with greatly improved air circulation.

SERIES 70—ELECTRICALLY OPERATED

Keeps out the noise the same as a closed window and also controls the circulation of fresh air indoors both in volume and direction. The vanes of the unique shutters may be turned to bring a breeze directly into the room, deflect it to any part or diffuse it in several directions as desired.

An ingenious filter removes dust, pollen and other impurities and assures a full flow of air through the life of the filter.

Drapes may be hung as usual. The whole unit may be removed quickly and easily when the window is cleaned.

SALIENT FEATURES

Noise kept out to extent of closed window quietness, by means of long established Silentaire acoustical principles.

Ventilation under complete control. 3-speed switch regulates volume of air.

Long life filters—full air flow through filter during entire life. Filters instantly changed by removing universal independent shutter.

Fits any size double-hung window—instantly removable—can be installed in casements, hopper vents or other windows.

Projects less than 4 in. into room at center, 1 in. at ends.

Consumes less than 35 watts of electric power.

Can be installed in most localities for less than \$50.00.

WALL INSTALLATION

Series 70 Silentaire may be installed in the wall entirely separated from the window. This provides an efficient ventilation air filter and noise muffler. Installation details furnished on request.



NON-MECHANICAL, NOISE-EXCLUDING VENTILATORS

Series 50-M, Metal Front

All metal, self-contained frame. Interior construction designed for maximum sound absorption with improved ventilation control. Complete unit is mounted outside window. Creates no new condition in window operation. The sash opens, closes and locks as before. Silentaire may be removed at any time by simply lifting it off its mounting brackets.



Weatherstrip along the bottom makes the window substantially weathertight. A sash seal is fastened to the lower rail of the upper sash, closing the space between the sliding sections when windows are open and thus preventing sound leakage at that point.

Built for every kind and size of double-hung window. Simple to install. Full directions with every unit.

Series 60-G, All Glass Unit

Uses the principle of sound reflection permitting clear vision. Outside deflector is of heavy polished wire plate glass in a safety frame. Inside reflector is of heavy curved glass scientifically focused to exclude sound waves.

The combination of outside deflector and inside reflector prevents rain or snow from entering the room, any striking the ventilator is carried away through outlets in the sill.

The sash opens, closes and locks as before. A sash seal is fastened to the lower rail of the upper sash to prevent noise leakage when the window is open.

Silentaire may be removed simply by lifting it off its brackets.

Built for any kind and size of double-hung window. Simple to install.



DETENTION WINDOWS

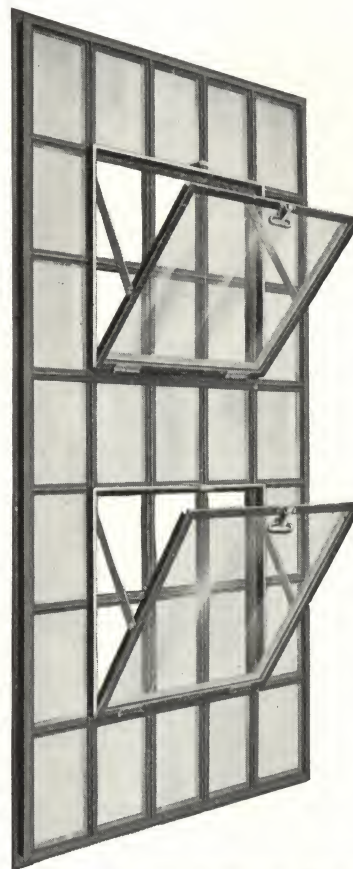
MODERN penology definitely recognizes that light and ventilation are among the most certain incentives to the good behavior and health of the inmates. In selecting windows for detention institutions such as prisons, reformatories and psychopathic hospitals, the designs require a variety of types to conform to the different conditions found within an institution.

Security is the first consideration, but it is obvious that what might be adequate security for one class of inmates is totally inadequate for a more desperate class. It is with the object of providing maximum efficiencies consistent with the degree of detention-security desired that the various types of Truscon Detention Windows were developed.

Included in the full line of Truscon Detention Windows are types which will meet all requirements for such institutions. Each type offers particular advantages—in some cases, maximum security; in others maximum lighting and ventilation. The individual needs will, in each case, govern the selection. Only a few of the many types of these detention windows can be portrayed on these pages. Information on other types may be secured upon request.

TRUSCON LOCK BAR WINDOW

This window can be furnished with sections of various weights, depth and thickness. All windows, however, incorporate the detention and ventilating features described by the accompanying illustration and specifications. These specifications will insure ample protection at an economical cost.



Truscon Lock Bar Detention Window

SPECIFICATIONS

(1) **General**—All Detention Windows as shown on drawings, and called for in these specifications, shall be Lock Bar Type as manufactured by the TRUSCON STEEL COMPANY of Youngstown, Ohio. No substitution will be permitted without the written approval of the architect or engineer.

(2) **Scope of Work**—This contractor shall include in his work the furnishing of all Detention Windows complete, in accordance with design and size as shown on drawings and covered in these specifications and the erection and attaching of hardware.

(3) **Work Not Included**—Glass, putty, glazing, caulking and field painting are not included in this contract.

(4) **Material**—All members shall be constructed of Truscon specification, hot-rolled, new billet steel.

(5) **Construction**—(a) Main frames shall be constructed of sections not less than $1\frac{1}{8}$ in. deep and all joints and intersections shall be welded both inside and outside. Welds shall be ground smooth before assembly where necessary for attachment of ventilators and screens.

(b) Ventilator sections shall not be less than $1\frac{7}{8}$ in. deep.

(c) All units shall be made straight and true, to insure perfect alignment, weathering and ease of operation.

(d) Units shall be constructed of fixed frame section with muntins continuous from jamb to jamb and head to sill, with vertical muntins spaced not more than $6\frac{3}{8}$ in. on center and horizontal muntins not more than $9\frac{3}{8}$ in. on center. At intersections there shall be a mechanical joint rigidly interlocking the muntins flush with each other. Joints of muntins and frames, stiles and rails shall be mortised and tenoned, and air-hammer riveted. Fixed sash to be backed up with bottom-hinged ventilator to swing in at top and having two steel supporting arms riveted to frame and ventilator. Supporting arm shall be of a design permitting the ventilator to open thirty

degrees, and shall be concealed within the sections when the ventilator is closed. Ventilators have muntins only when they cover 10 lights or more of the main frame and in that case have vertical muntins lined up with main frame vertical muntins. Additional muntins are extra.

(e) Units may be furnished with projected ventilators to project up-and-in and shall be supported on two $\frac{1}{2}$ x1-in. high carbon steel supporting arms having a bronze flange bushing and fastened to frame and ventilator by a special $\frac{3}{8}$ -in. steel shoulder rivet. Supporting arms shall be concealed within sections when ventilator is closed. Each ventilator shall be equipped with vertical sliding brass friction shoe, permitting the ventilator to be opened to any degree within its limit.

(6) **Hardware**—Each sash shall be equipped with combination spring latch and strike screwed to section and riveted. Each ventilator shall be hinged at the bottom with two $3\frac{1}{2}$ x $2\frac{1}{2}$ -in. steel butt hinges, spot-welded to vent and screwed and riveted to frame.

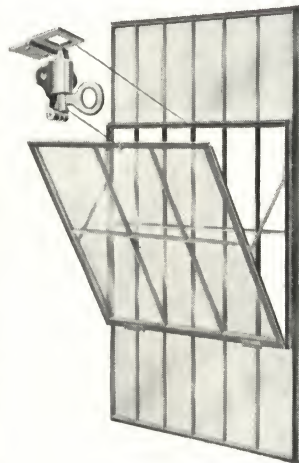
(7) **Painting**—All windows shall be given one prime coat of paint before shipment.

(8) **Glazing**—All units shall be OUTSIDE putty-glazed. The ventilator shall be glazed and the portion of the fixed sash directly in front of the ventilator to remain unglazed. Glass shall be held in place with Truscon copper-clad spring steel wire glazing clips. All glass shall be bed and face puttied with Truscon special metal window putty.

(9) **Erection**—Each unit shall be set plumb and true in opening, securely wedged and held in alignment during construction. After the windows have been placed in the openings and before glazing, the sash shall be carefully adjusted so as to provide perfect weathering, and ease of operation. The joints between frame and masonry shall be carefully pointed by the mason contractor.

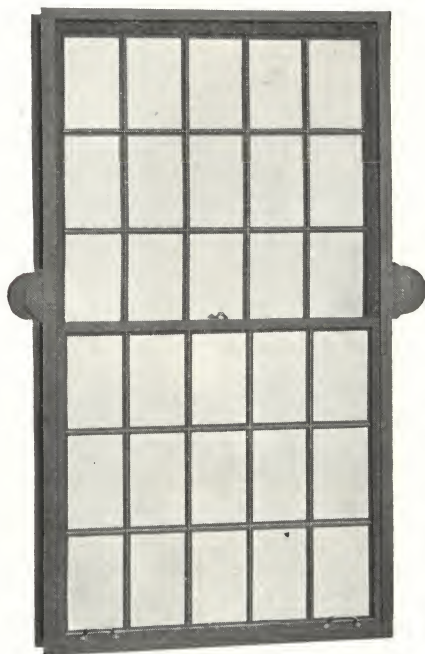
DETENTION WINDOWS

THE Truscon Security Detention Window is made of pivoted window sections and is the most economical of all Detention Windows from initial cost standpoint as well as burglary insurance. These windows afford ample daylight and ventilation. Chain stores, grocery or department stores or any building with windows on alleyways or courts need these windows. Eight types with nominal glass size 6x18 in. are carried in stock for immediate delivery. Special designs in either 6x18 in. or 6x9 in. glass size or of special glass sizes will be made on order.



Truscon Security Detention Window

Where the exterior and interior simplicity of ordinary institutional construction is the desirable feature the Spring Balanced Detention Window fulfills those requirements admirably. In this type of window ventilation may be obtained at top and bottom.



Truscon Spring Balance Detention Window Series 60HD

CONDENSED SPECIFICATIONS—SERIES 60HD

- (1) **General**—All windows shown on drawings, or called for in specifications, shall be Heavy Detention Spring Balanced Double-Hung Windows, as manufactured by the TRUSCON STEEL COMPANY of Youngstown, Ohio. No substitution shall be permitted without the written approval of the architect or engineer.
- (2) **Material**—Frames and Sash: Shall be constructed of hot-rolled new billet steel; sub-frames, if required, shall be of 14-gauge material; exterior moulding, if required, of 18 gauge.
- (3) **Construction**—(a) *Frame Members*—Head and jamb members shall be of a special rolled section, depth of section to

be not less than 4½ in., including cove moulding, which is an integral part of the frame section. Intersection of sections to be welded and ground smooth where necessary. When required, an exterior sub-frame and moulding may be applied to frame section. (See detail.)

(b) *Sash*—Shall be constructed of channel sections not less than 1½ in. deep, the corners to be welded.

(c) *Muntins*—Where required, shall be hot-rolled sections. At intersections, there shall be a mechanical joint rigidly interlocking the muntins flush with each other. Joints of muntins and frames, stiles and rails shall be tenoned, mortised and air-hammer riveted.

(4) **Weathering**—A specially designed combination weathering and parting strip of extruded bronze shall be provided at the jambs. (See detail.) There shall be a weathering block provided at the meeting rail.

(5) **Hardware**—(a) All units shall be equipped with one pair of malleable lift handles and sweep lock at meeting rail. Special jamb detention locking device, key operated, can be furnished in place of sweep lock at option of customer.

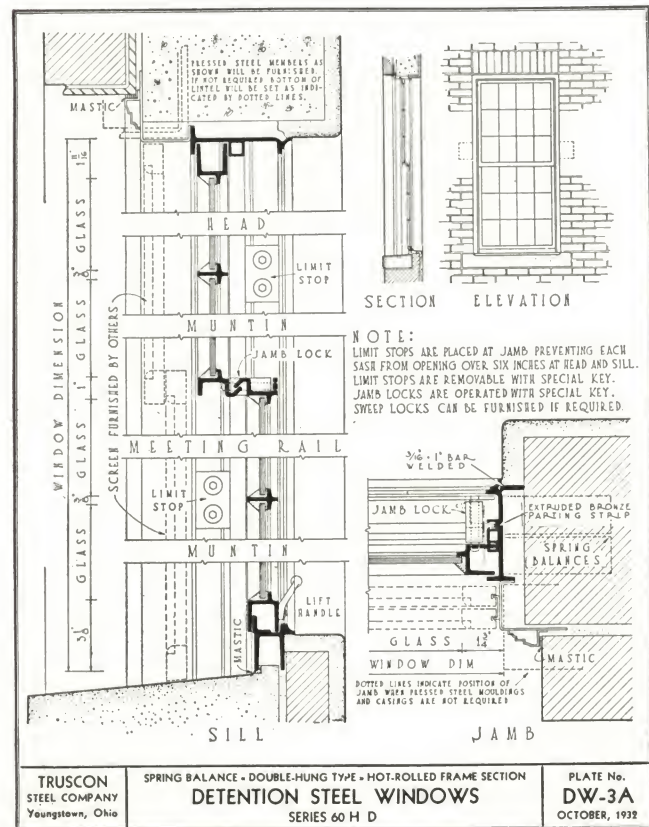
(b) Each sash shall be suspended on two enclosed spring balances as furnished by TRUSCON STEEL COMPANY. Spring balances shall be enclosed in a metal housing and securely attached to frame. Metal tapes shall be properly attached to sash and shall hang vertically and run freely at all times.

(c) Limit stops shall be provided to prevent upper or lower sash from opening more than 6 in. and shall be removable only by a special key. Upon removal, top or bottom sash can slide full height of opening.

(6) **Anchors**—Units shall be equipped with strap anchors at jamb for attaching to building construction.

(7) **Painting**—All windows shall be given one coat of protective paint, before shipment.

Note: Screen guides can be furnished and applied to exterior subframe of Series 60HD windows to permit application of vertical sliding screen. (See detail.)



Donovan Windows and Casement Windows can be designed to incorporate detention features and still retain the salient features peculiar to their design.



Airplane Hangar Doors
Round the Corner Type



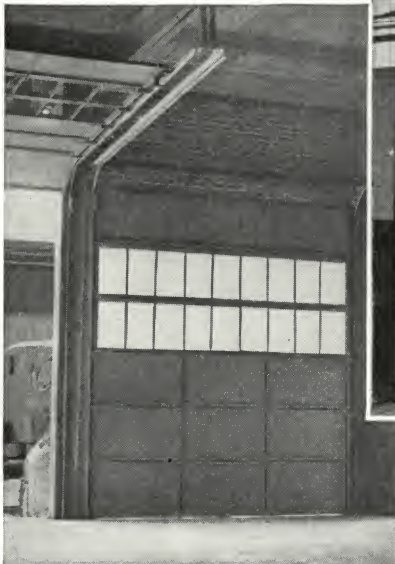
Vertical Lift-Swing Doors



Accordion Doors



Canopy Doors



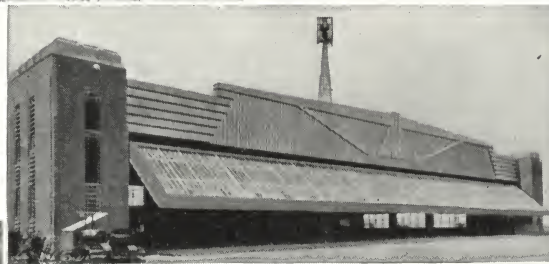
Overdoors
Operating Overhead



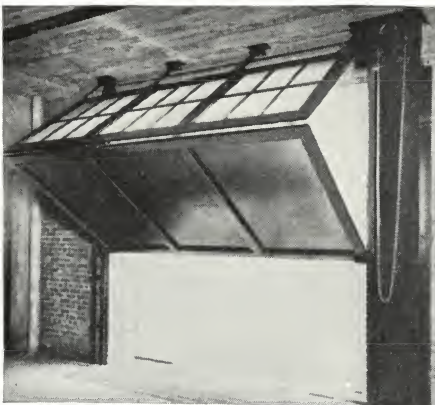
Airplane Hangar Doors
Straight Track Type



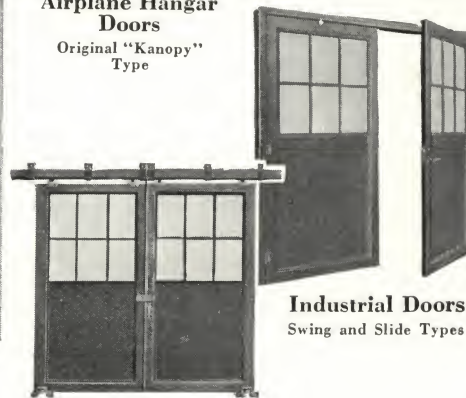
Telescopic Canopy Doors



Airplane Hangar Doors
Original "Kanopy" Type



Bifold Doors



Industrial Doors
Swing and Slide Types



Vertical Lift Doors

STEEL DOORS

WALLS may be built of steel, reinforced concrete or other masonry construction but unless the doors in them are of steel construction the advantages are largely lost. Of equal importance is the ability of steel doors to withstand constant hard usage, to keep out marauders, to be unaffected by weather conditions and to last indefinitely.

These important factors have all had primary consideration in the design and manufacture of Truscon Steel Doors. The satisfaction these doors are giving in innumerable industrial, commercial and other buildings is the best testimonial to their efficiency. Steel doors are fire-resisting, long-lived and do not warp, swell or rot. They protect the contents against theft, trespass and the elements.

The best commercial grades of steel go into doors made by Truscon. This steel is formed into rectangular tubes and structural hot rolled shapes, which after many years of application have been accepted by outstanding engineers as the most practical for use in steel door construction.

Truscon, with its many years' experience in the design and manufacture of Steel Doors of all types and sizes, is in excellent position to work with architects and engineers in selecting the proper type of steel door to fit in perfectly with the design and construction details of any building.

DOORS DESIGNED AND MANUFACTURED BY TRUSCON

INDUSTRIAL STEEL DOORS

Carried for immediate delivery in Truscon warehouses throughout the United States. Recommended for use in basements, furnace and boiler rooms, fire exits, service entrances, utility spaces and pent houses of hotels, residences, apartments, schools, hospitals, office buildings, and for general use in grain elevators, ramp enclosures, oil pump houses, freight and power houses, filling stations, public and private garages and factories.

INDUSTRIAL DOORS FOR LARGE OPENINGS

Designed for factory, mill, commercial and warehouse buildings where the size and method of operation of doors is not subject to limitations.

ACCORDION DOORS

An extremely fast-operating door, especially designed for motor operation and fabricated especially to meet such conditions as are presented by railroad shops, fire stations, round houses, public garages and any structure where unobstructed openings for railroad entrances are desirable.

VERTICAL LIFT DOORS

Because of their simplicity of operation, are used in warehouses, freight houses, garages and factories. This type of door can be furnished in practically any size. An outstanding feature is the unobstructed opening when the door is fully opened.

VERTICAL LIFT-SWING AND TURNOVER DOORS

Heavy, rugged doors, especially desirable for pier and warehouse work. They operate easily, swing overhead and require a minimum of head room when opened.

OVERDOORS

Offer many advantages. They are light, fast doors with spring counterweights, giving economy of space both inside and outside, protection from the weather, neat appearance and ease of operation. Especially recommended for

use in garages, service stations and repair shops where a minimum of head room is available.

BIFOLD DOORS

Require a medium amount of head room and medium sizes are better hand operated. They are used principally in freight houses, warehouses, shipping and loading platforms. They are mechanically correct and require less head room than many other types that fold above the opening.

INDUSTRIAL CANOPY DOORS

An all purpose door. Designed to operate at a slower speed than the majority of doors so that pedestrians and traffic will not be in any danger while the door is in operation. It fits in anywhere, from the small individual garage to the largest openings in bus or truck terminals. It requires a minimum amount of head room. Its size is practically unlimited.

AIRPLANE HANGAR DOORS

Fabricated in several types to meet the requirements of any type of hangar. They are:

Straight Slide Type—The strongest, finest and most serviceable and economical door of this type on the market. There is no limit to either the height or width of opening that this type of door will meet.

Round the Corner Type—The door units operate on separate tracks which are curved at the ends of the openings and which parallel each other. When open the doors lie against the inside wall of the hangar to allow maximum opening.

Morgan Type—Is the latest design of our electrically operated canopy doors for openings exceeding 100 feet in width and 28 feet in height.

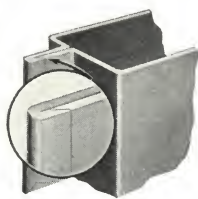
Telescopic Canopy Type—Is adaptable to buildings where it is desirable to keep the center of gravity of the door inside the front trusses and where a restricted canopy overhang is necessary.

INDUSTRIAL DOORS AND FRAMES

SERIES 31 SWING TYPE

ADAPTABLE for use in basements, rear entrances, boiler rooms, fire exits, elevators and similar places in residences, hotels, apartments, schools, churches, institutions, shops, warehouses, filling stations, stores and similar applications.

Industrial Doors are furnished in various sizes for swing or slide installations and meet most practical conditions. Swing and Slide doors are carried in stock for five sizes of single openings and five sizes of double openings. Refer to plates J-1 and J-2 for actual sizes of leaves, clearances and installation details. Other sizes can be made to order.



Lock Seam Tube

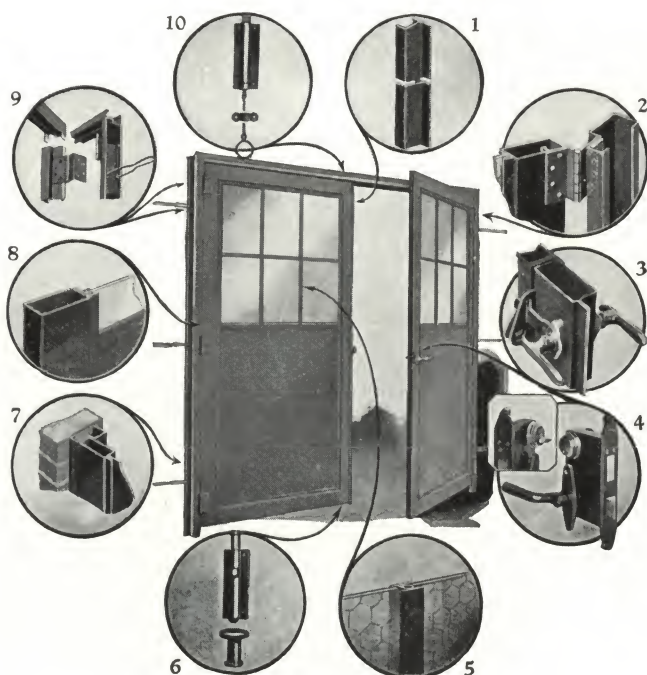
Stiles and rails are made of pressed steel tubing with lock seam. All corners are carefully fitted and welded solidly. The large size of the tube, $1\frac{3}{4} \times 5$ in., provides an ideal condition for welding. There is practically 14 inches of weld at each corner.

Standard Pressed Steel Door Frames—Are furnished for Swing Type Doors. They are heavily reinforced at corners and at hinges and are prepared for standard hardware.

Regularly furnished with masonry anchors so they can be erected as the walls are built. Frames will also be furnished with provisions for expansion bolts if so specified.



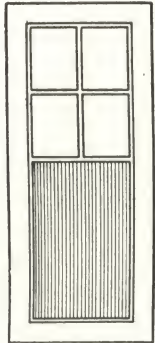
[SPECIFICATIONS ON PAGE 58]



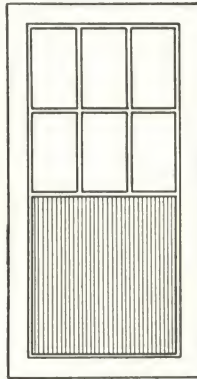
CONSTRUCTION DETAILS

- (1) **Astragal**—Hot rolled steel, rigidly attached to left hand leaf.
- (2) **Off Set Hinges**—Extra heavy duty steel template hinges—three attached for each swinging leaf. Frame heavily reinforced for hinges.
- (3) **Lever Latch**—Heavy and serviceable—equipped with pad-lock brackets and neat lever handles.
- (4) **Cylinder Lock**—Key cylinder on outside and thumb turn on inside operating dead bolt. Lever handles operate spring latch from either side.
- (5) **Muntin Bar**—Showing method of glazing. All muntins are solidly welded direct to door rail.
- (6) **Foot Bolt**—Automatic, furnished with all double swing doors, Series 31.
- (7) **Pressed Steel Frame**—Gives a more finished appearance than structural frames. Fastened in masonry by means of anchors attached to frame.
- (8) **Sash**—Showing method of glazing and muntin bar attached directly to door rail. Neat paneling effect obtained by this type of construction.
- (9) **Anchors and Reinforcements**—Showing method of simple field assembly of pressed steel frames. Anchors always furnished.
- (10) **Chain Bolt**—For inside locking at top of left hand leaf of all double swing doors.

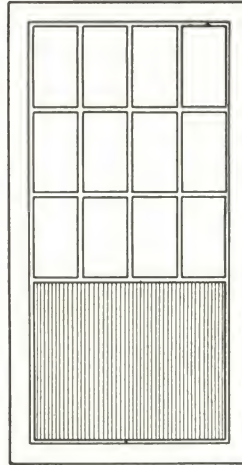
SINGLE DOORS SHOWN ARE
COMBINED TO MAKE DOUBLE
DOORS LISTED ON CHART BELOW



NO'S 26-70 & 30-70



NO'S 36-76 & 40-80

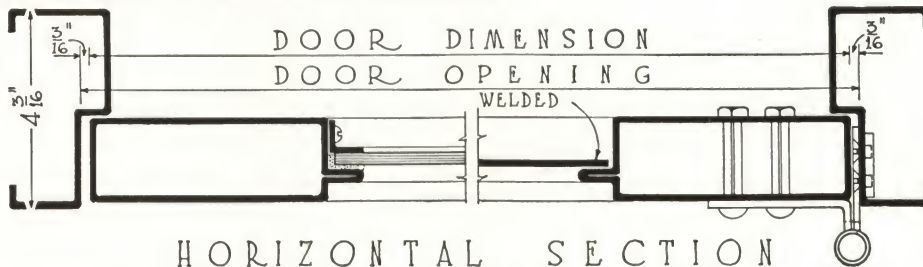


NO 50-100

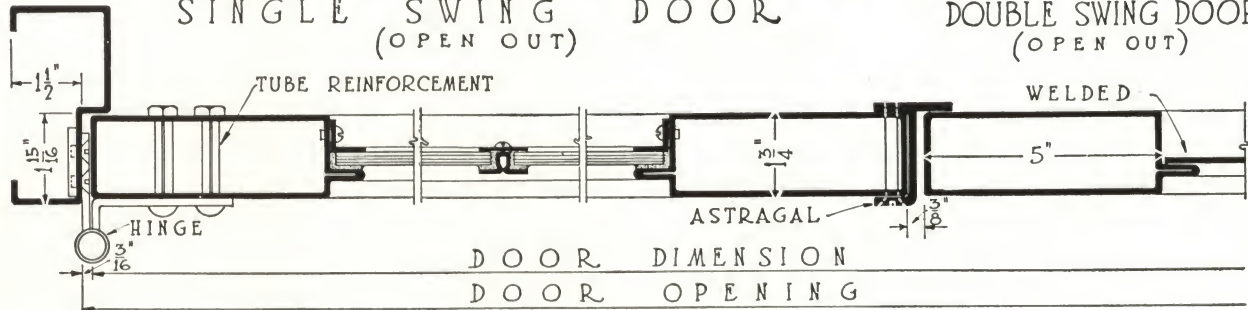
S T O C K			S I Z E S		
DOOR NO.	SIZE OF DOOR WIDTHHEIGHT	SIZE OF OPG. WIDTH HEIGHT	GLASS SIZE		
S I N G L E			S W I N G		
26-70	2'-5 5/8" 6'-11 1/4"	2'-6" 7'-0"	9 1/16" x 16"		
30-70	2'-11 5/8" 6'-11 1/4"	3'-0" 7'-0"	12 1/16" x 16"		
36-76	3'-5 5/8" 7'-5 1/4"	3'-6" 7'-6"	10 1/8" x 19"		
40-80	3'-11 5/8" 7'-11 1/4"	4'-0" 8'-0"	12 1/8" x 22"		
50-100	4'-11 5/8" 9'-11 1/4"	5'-0" 10'-0"	12" x 22 1/2"		
D O U B L E			S W I N G		
50-70	4'-11 5/8" 6'-11 1/4"	5'-0" 7'-0"	9 1/16" x 16"		
60-70	5'-11 5/8" 6'-11 1/4"	6'-0" 7'-0"	12 1/16" x 16"		
70-76	6'-11 5/8" 7'-5 1/4"	7'-0" 7'-6"	10 1/8" x 19"		
80-80	7'-11 5/8" 7'-11 1/4"	8'-0" 8'-0"	12 1/8" x 22"		
100-100	9'-11 5/8" 9'-11 1/4"	10'-0" 10'-0"	12" x 22 1/2"		

NOTES:

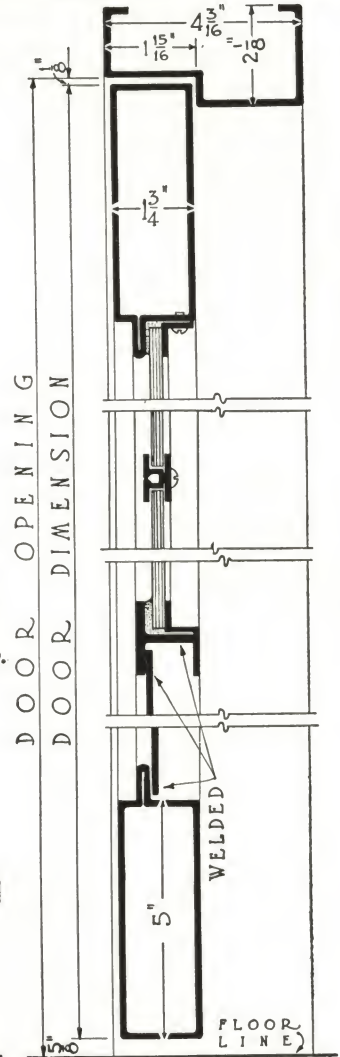
ALL DOORS ARE FURNISHED WITHOUT GLASS. GLAZING ANGLES HOWEVER ARE FURNISHED FOR ALL LIGHTS. DOORS MAY BE FURNISHED WITH SOLID STEEL PANELS IF DESIRED.



HORIZONTAL SECTION
SINGLE SWING DOOR
(OPEN OUT)



HORIZONTAL SECTION THRU DOUBLE SWING DOOR
(OPEN OUT)



VERTICAL SECTION
FOR SINGLE AND
DOUBLE SWING DOORS
(OPEN OUT)

TRUSCON
STEEL COMPANY
Youngstown, Ohio

STANDARD DETAILS - SWING UNITS
INDUSTRIAL STEEL DOORS
SERIES 31

PLATE No.
J-1
OCTOBER, 1934

INDUSTRIAL DOORS

SPECIFICATIONS

(1) **General**—All doors shown on drawings and marked Industrial Steel Doors, shall be of the type as manufactured by the TRUSCON STEEL COMPANY of Youngstown, Ohio. No substitution shall be made without the written consent and approval of the architect.

(2) **Material**—(a) The stiles, top rail and bottom rail of the Industrial Steel Door, Series 31, shall be constructed of 5x1 $\frac{3}{4}$ in. No. 14 gauge pressed steel tube.

(b) Sash panel shall be an integral part of the door leaf securely welded to the door rails.

(c) The steel panels shall be constructed from annealed and patent leveled sheets.

(3) **Construction**—(a) The corner shall be of welded construction with all joints face welded and ground smooth.

(b) The lower portion of the door shall be equipped with steel panels electrically spot-welded to the stiles and rails and shall not be less than No. 18 gauge in thickness.

(c) The upper portion of the door shall be fitted with a sash panel, all members of which shall be welded in place. The glass shall be held in place with putty and glazing angles.

(4) **Hardware**—(a) Sliding leaves shall be hung from four (4) wheel roller-bearing trolleys and shall be provided with guides, handles, stops and hasp staples as shown on the drawings.

(b) Each swinging leaf shall be equipped with three (3) heavy steel half surface template butt hinges.

(c) All swing doors shall be equipped with Truscon standard mortise cylinder lock with solid bronze face, or lever latch and padlock brackets. Cylinder lock to be equipped with spring bolt operated by lever handles and dead bolt operated by thumb turn from inside and by key from outside.

SERIES 31
SLIDE TYPE

(d) Where swing doors are hung in pairs one leaf shall be equipped with foot bolt and spring top bolt.

(e) With all double swing or double slide doors, an astragal shall be provided by door manufacturer.

(5) **Pressed Steel Door Frame**—(a) All Industrial Doors shall be provided with a pressed steel door frame made of 14-gauge steel. Unless otherwise specified, these frames shall be supplied by the door manufacturer.

(b) Frame shall be either fastened directly to the structural steel or shall have anchors built into the masonry. The frame, regardless of jamb anchorage, shall extend 3 in. below finished floor line.

(6) **Painting**—All doors and frames shall receive one coat of protective paint before shipment.

(7) **Erection**—The erection of all doors shall be performed by the door manufacturer.

CONSTRUCTION DETAILS

(1) **Method of Glazing**—Showing muntin bar and glazing angles for holding glass in place.

(2) **Carriage of Trolley**—Adjustable four-wheel, roller-bearing, extra heavy trolley.

(3) **Astragal**—Hot-rolled steel, rigidly attached to left hand leaf.

(4) **Hardware**—Handles for opening and closing. Hasp and staple, for padlocking, attached by through bolts.

(5) **Cane Bolt**—Placed on left hand leaf on the inside, locking leaf in place.

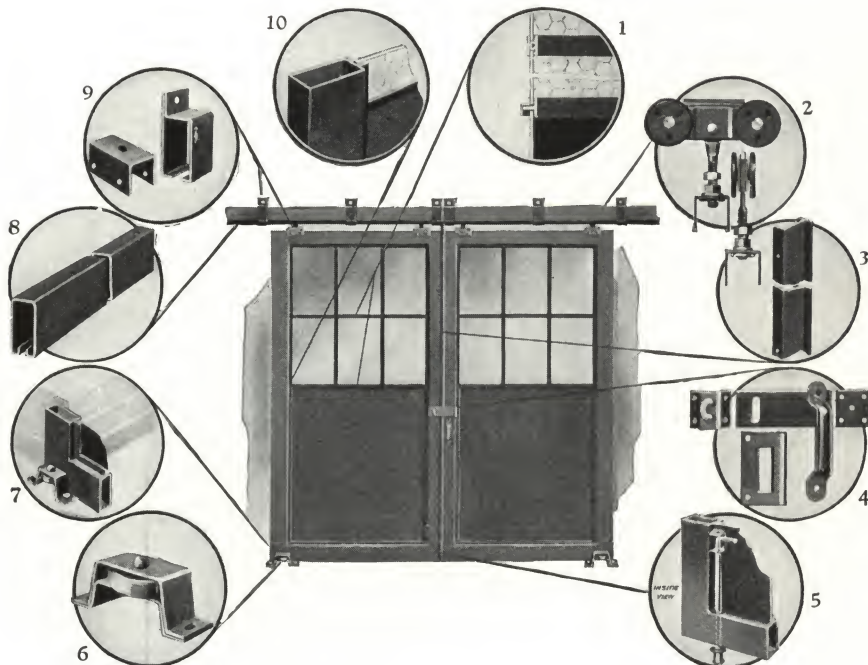
(6) **Roller Guides**—For guiding door in its travel, also prevents leaf being pulled away from building.

(7) **Corner Section**—With roller guide in position. Also showing paneling effect obtained on Series 31, steel doors.

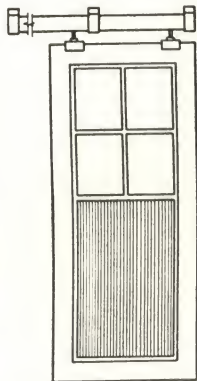
(8) **Channel Track**—Heavy gauge assuring continuous dependable operation.

(9) **Bracket and Apron**—Bracket used to support channel track and apron for overhead trolley.

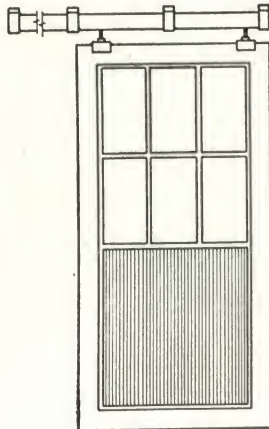
(10) **Jamb Section**—Tubular stiles and rails of heavy gauge steel.



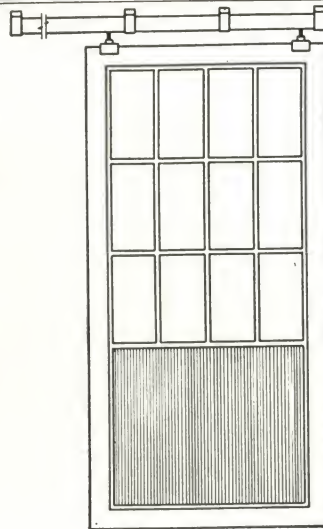
SINGLE DOORS SHOWN ARE
COMBINED TO MAKE DOUBLE
DOORS LISTED ON CHART BELOW



NO'S 26-70 & 30-70



NO'S 36-76 & 40-80



NO 50-100

STOCK			SIZES		
DOOR NO.	SIZE OF DOOR		SIZE OF OPENING		GLASS SIZE
	WIDTH	HEIGHT	WIDTH	HEIGHT	
SINGLE SLIDE					
26-70	2'-5 5/8"	6'-11 1/4"	2'-3"	6'-10 1/2"	9 5/8" x 16"
30-70	2'-11 3/8"	6'-11 1/4"	2'-9"	6'-10 1/2"	12 1/4" x 16"
36-76	3'-5 5/8"	7'-5 1/4"	3'-3"	7'-4 1/2"	10 5/8" x 19"
40-80	3'-11 3/8"	7'-11 1/4"	3'-9"	7'-10 1/2"	12 1/8" x 22"
50-100	4'-11 3/8"	9'-11 1/4"	4'-9"	9'-10 1/2"	12" x 22 1/2"
DOUBLE SLIDE					
50-70	4'-11 3/8"	6'-11 1/4"	4'-9"	6'-10 1/2"	9 5/8" x 16"
60-70	5'-11 3/8"	6'-11 1/4"	5'-9"	6'-10 1/2"	12 1/4" x 16"
70-76	6'-11 3/8"	7'-5 1/4"	6'-9"	7'-4 1/2"	10 5/8" x 19"
80-80	7'-11 3/8"	7'-11 1/4"	7'-9"	7'-10 1/2"	12 1/8" x 22"
100-100	9'-11 3/8"	9'-11 1/4"	9'-9"	9'-10 1/2"	12" x 22 1/2"

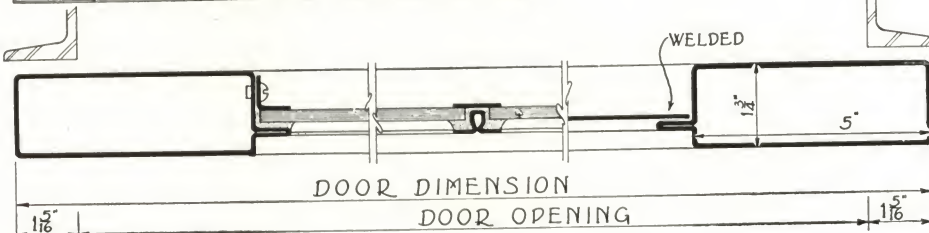
NOTES:

ALL DOORS ARE FURNISHED WITHOUT GLASS. GLAZING ANGLES AND STRIPS, HOWEVER, ARE FURNISHED FOR ALL LIGHTS. DOORS MAY BE FURNISHED WITH SOLID STEEL PANELS IF DESIRED.

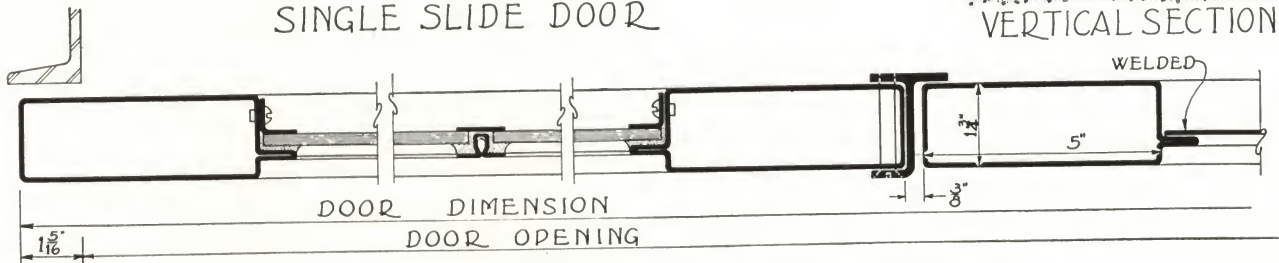
NUT TO OBTAIN
VERTICAL ADJUSTMENT
3/4" UP - 3/4" DOWN
1 1/2" TOTAL

DOOR DIMENSION

DOOR OPENING



HORIZONTAL SECTION
SINGLE SLIDE DOOR



HORIZONTAL SECTION - DOUBLE SLIDE DOOR

VERTICAL SECTION

TRUSCON
STEEL COMPANY
Youngstown, Ohio

STANDARD DETAILS - SLIDE UNITS
INDUSTRIAL STEEL DOORS
SERIES 31

PLATE No.
J-2
OCTOBER, 1934

INDUSTRIAL DOORS FOR LARGE OPENINGS

INDUSTRIAL Doors for large openings meet every requirement of practical use and protection and are designed to fit the conditions of industry. They have been perfected through extensive use in industrial buildings of all kinds and are furnished in practically any size and arrangement, and with any method of operation.

These Doors are made of the best grade of commercial steel. Stiles and rails of tubular steel, mitered, internally reinforced and solidly welded at all corners, give maximum strength.

Primarily designed for large openings, but they are also economical in smaller openings where the doors are subjected to extremely hard and rough usage. Suggestions on types of Industrial Doors to meet special conditions will be furnished without obligation.

SPECIFICATIONS

(1) **General**—All doors shown on drawings as heavy tube doors shall be Industrial Doors, Series 100, as manufactured by the TRUSCON STEEL COMPANY of Youngstown, Ohio. No substitution shall be made without the written consent and approval of the architect.

(2) **Material**—(a) The stiles, top rail, cross rails and bottom rail, shall be constructed of 13-gauge cold-rolled welded steel tubing, 4x2½ in.

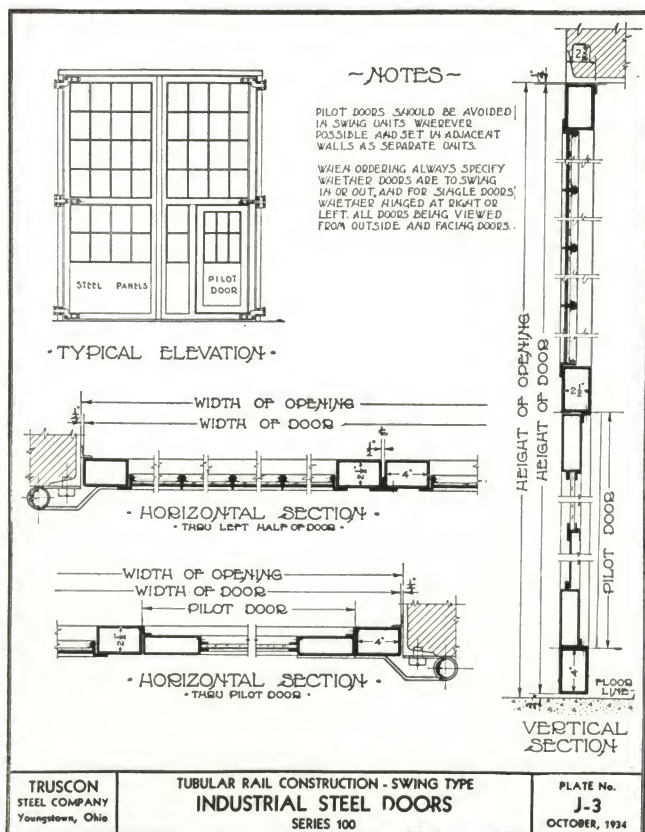
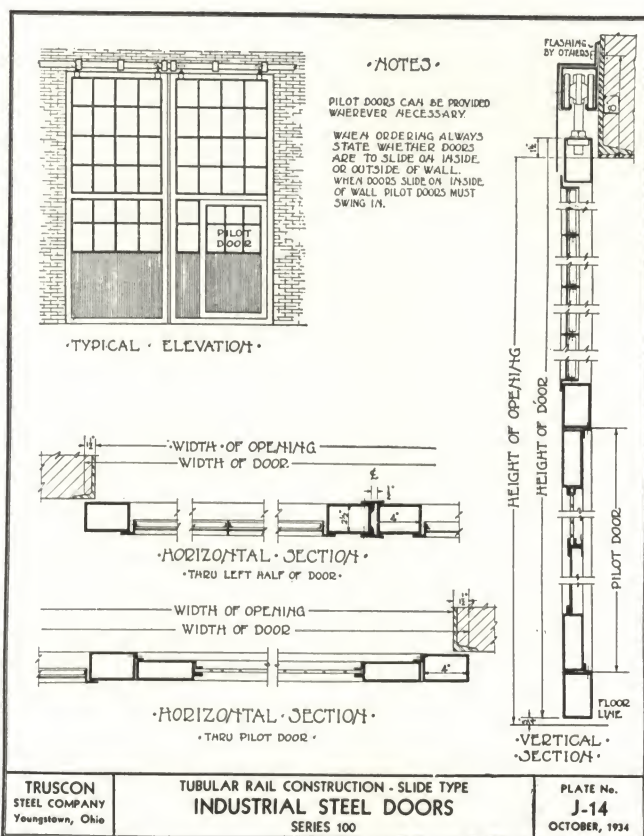
(b) All windows included in doors shall be constructed from hot-rolled new billet steel.

(3) **Construction**—(a) The corners and intersections shall be welded and ground smooth. Welds must develop the full strength of the section. Corners shall be mitered.

(b) The lower portion of the doors shall be fitted with not less than 13-gauge patent leveled steel panel fastened in place by machine screws.

SERIES 100

Heavy Tubular Rail, Swing and Slide Types



(c) The upper portion of the door shall be fitted with a window built up of Truscon standard members and glazed with glass lights as shown on the drawings. The glass shall be held in place with putty and continuous steel glazing angles.

(d) Mastic shall be applied between window and framing and between steel panel and framing to form weather-tight connections.

(4) **Frames**—Where shown on the drawings, steel channel frames for all door openings shall be furnished by this contractor.

(5) **Hardware**—(a) Sliding doors shall be hung from Truscon standard four-wheel trolleys and heavy channel track and shall be equipped with back stops, binders and complete hardware as shown on the drawings.

(b) Swinging doors shall be equipped with Truscon Standard heavy steel strap hinges. (Ball bearing butt hinges can be furnished if specified.)

(c) All swing doors shall be equipped with Truscon Standard mortise cylinder locks (or lever latch and padlock brackets) and heavy handles on inside and out. (Cylinder lock not furnished on leaves larger in area than 60 sq. ft.)

(d) Where swing doors are hung in pairs, one leaf shall be equipped with Truscon standard cane bolt at bottom and spring bolt at top.

(e) An astragal shall be provided by door manufacturer with all double swing or double slide doors.

(6) **Painting**—All doors and frames shall receive one coat of protective paint before shipment.

(7) **Erection**—The erection of doors shall be performed by the door manufacturer.

OVERDOORS OPERATING OVERHEAD

SERIES 204 AND 386

THIS type of door offers many advantages; economy of space, protection from the weather, neat appearance, ease of operation and great practicability.

The spring balances used in Truscon Overdoors are considerably oversize, as are all the other operating parts. The doors are sure to provide a long time of satisfactory service. Overdoors require no drilling,

cutting or fitting—all operations, including a coat of paint, are completed in the shop, so that field assembly is reduced to a minimum. The sturdy steel sections are of the finest quality material and workmanship.

Ball-bearing rollers, positive weathering at jambs and high quality cylinder lock are provided on every door.

SPECIFICATIONS

SERIES 204 FOR SMALL OPENINGS

(1) **General**—All doors shown on the drawings as "Overdoors" shall be as manufactured by the TRUSCON STEEL COMPANY. No substitution shall be made without the written consent or approval of the architect.

(2) **Material**—The stiles and rails of all leaves shall be constructed from hot-rolled new billet steel. The steel panels shall be constructed from cold-rolled sheets full pickled, reannealed and patent leveled.

(3) **Construction**—The stiles and rails of all leaves shall be of Truscon Standard Members. All joints shall be mortised and tenoned and air-hammer riveted. One leaf shall be open for glass to be held in place with continuous glazing angles. The balance of the leaves shall be fitted with steel panels held in place with continuous glazing angles and weatherproofed with mastic. The steel panels shall be not less than 18-gauge thickness.

An astragal shall be spot-welded to the top member of each meeting rail to insure weathering between each leaf.

(4) **Hardware**—Doors shall be complete with Truscon Standard Hardware for Spring Operation. Hardware shall consist of all necessary rollers, track, weathering for jambs, lift handles and cylinder lock. A pull-down cord shall be provided.

(5) **Painting**—All doors shall be given one coat of protective paint before shipment.

(6) **Erection**—The erection of all doors shall be performed by the manufacturer.

SPECIFICATIONS

SERIES 386 FOR LARGE OPENINGS

(1) **General**—All doors shown on drawings and so marked shall be of the Overdoor Type, Series 386 as manufactured by the TRUSCON STEEL COMPANY, Youngstown, Ohio. No substitution shall be made without the written consent and approval of the architect.

(2) **Construction**—(a) Generally, outside frame members shall be made of special channel sections, with mitered corners welded and ground smooth. An astragal shall be spot welded to top member of each meeting rail to insure weathering between leaves.

(b) Glass panels shall be arranged for inside putty glazing with continuous glazing angles.

(c) Solid steel panels shall be made of 18-gauge patent leveled sheets held in place with continuous glazing angles and weatherproofed with mastic.

(3) **Operation**—All doors shall be counterbalanced by springs lying overhead in a horizontal position. In addition, a geared hand chain operator shall be provided on all doors. Locking shall be by means of a throw bolt placed on inside at one jamb.

(4) **Painting**—All doors shall receive one coat of protective paint before shipment.

(5) **Erection**—Erection of all doors shall be performed by the door manufacturer.



TRUSCON STEEL COMPANY—YOUNGSTOWN—OHIO—U.S.A.

ACCORDION DOORS

SERIES 500HT AND 500LT

THESE doors are used extensively in railroad structures and other buildings requiring maximum height of door opening with minimum obstruction. They are particularly adaptable in extremely wide or high openings where a swing door would ordinarily be used.

In operation, the leaves fold against one another and since they cannot bind or jam, one person can open or close them easily. They are hung at the top from heavy four-wheel roller and ball-bearing swivel trolleys, running in a heavy channel track placed above the opening. They are shipped with complete hardware, such as track, brackets, trolleys, hinges, cane bolts and binders.

Stiles and rails are made from tubing. For Series 500HT, 4x2½ in. 13-gauge tube is standard; for Series 500LT, standard industrial tube 1¾x5 in. 14-gauge is used. The large tube is used when doors are for extremely large openings or for smaller doors subject to unusually rough and hard treatment. For openings receiving ordinary usage, the lighter tube will give years of uninterrupted service.

These doors are furnished with steel windows in the upper portion, although, if desired, they can be furnished with solid steel panels throughout.

Besides adding permanently good appearance to a building, Truscon Accordion Steel Doors afford greatly improved weather protection and long life. Maintenance has proved remarkably low because of their rigid construction and inherent permanent qualities.

SPECIFICATIONS

Series 500HT and 500LT

(1) **General**—All doors shown on drawings and marked as such shall be Accordion Steel Doors as manufactured by TRUSCON STEEL COMPANY of Youngstown, Ohio. No substitutions shall be made without the written consent and approval of the architect.

(2) **Material**—(a) For Series 500HT, all stiles and rails shall be made 4x2½ in., 13-gauge cold-rolled welded steel tubing.

(b) For Series 500LT, all stiles and rails shall be made from Truscon Industrial tube 1¾x5 in., 14-gauge.

(c) All steel windows in door leaves shall be of Truscon standard design and made from Truscon specification new billet steel.

(3) **Construction**—(a) All corners and intersections shall be welded and ground smooth. The weld must develop the full strength of the section.

(b) Series 500HT—The lower portion of the doors shall be fitted with 13-gauge patent leveled steel sheets.

Series 500LT—The steel panels shall not be less than 18-gauge patent leveled steel sheets.

(c) The upper portion shall be fitted with steel windows according to Truscon standard design.

(4) **Frames**—As shown on the drawings, steel channel frames for all door openings shall be furnished and installed by the contractor furnishing structural steel.

(5) **Hardware**—(a) Doors shall be equipped with Truscon standard heavy steel hinges, track, brackets, trolleys and complete hardware.

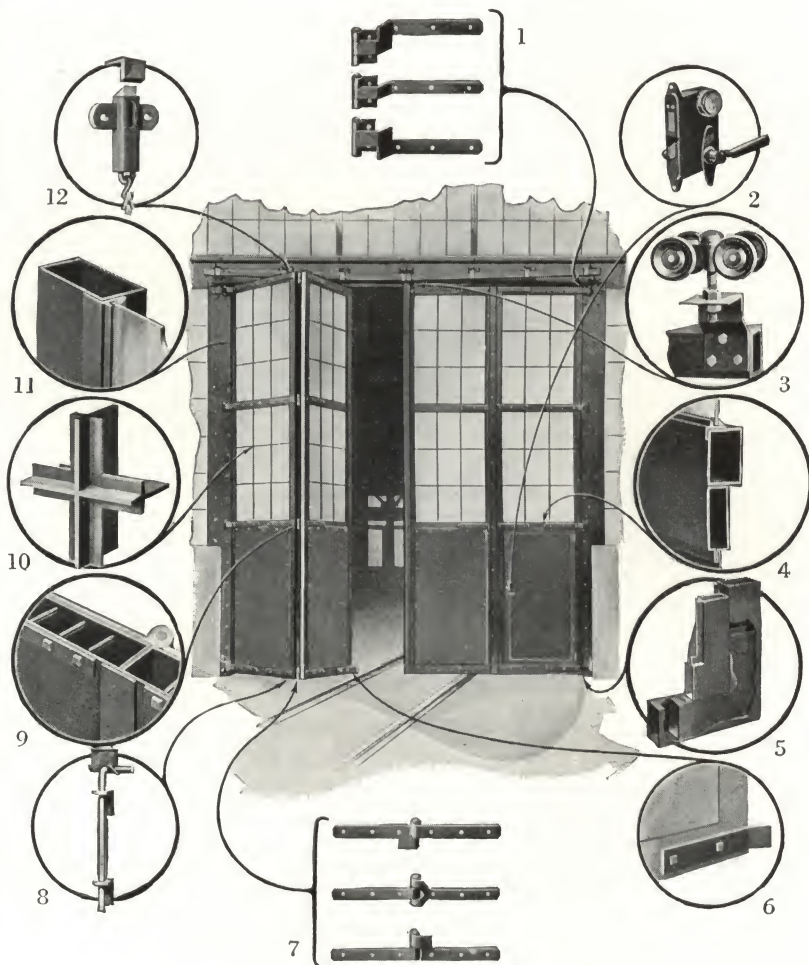
(b) Pilot doors, where shown, shall be fitted with cylinder spring latch and dead bolt heavy mortise cylinder lock (or lever latch with padlock brackets) and heavy steel handles.

(c) Each opening having four leaves, two of which fold to each jamb, shall have two (2) cane bolts at the bottom and two (2) spring bolts at the top, one set for each pair of leaves.

(d) Standard astragals shall be furnished as weathering between all leaves.

(6) **Painting**—All doors shall receive one coat of protective paint before shipment.

(7) **Erection**—The erection of doors shall be performed by the door manufacturer.



CONSTRUCTION DETAILS

Series 500HT

(1) **Heavy Strap Hinges**—These specially designed hinges are wrought forged of heavy material and attached with bolts through door.

(2) **Cylinder Lock**—For Pilot Door may be locked from either side.

(3) **Specially Designed Trolley**—This four-wheel swivel, roller-bearing trolley gives strength and ease of operation.

(4) **Construction of Pilot Door**—Showing application of Pilot Door in large Accordion Doors.

(5) **Construction of Corners**—Corner reinforcements furnished with all heavy tube door leaves.

(6) **Bottom Strap**—Special strap used at bottom to guide doors in alignment when being closed.

(7) **Heavy Strap Inside Hinges**—Wrought of heavy material, specially designed for use on the inside of the door and securely attached with bolts through door.

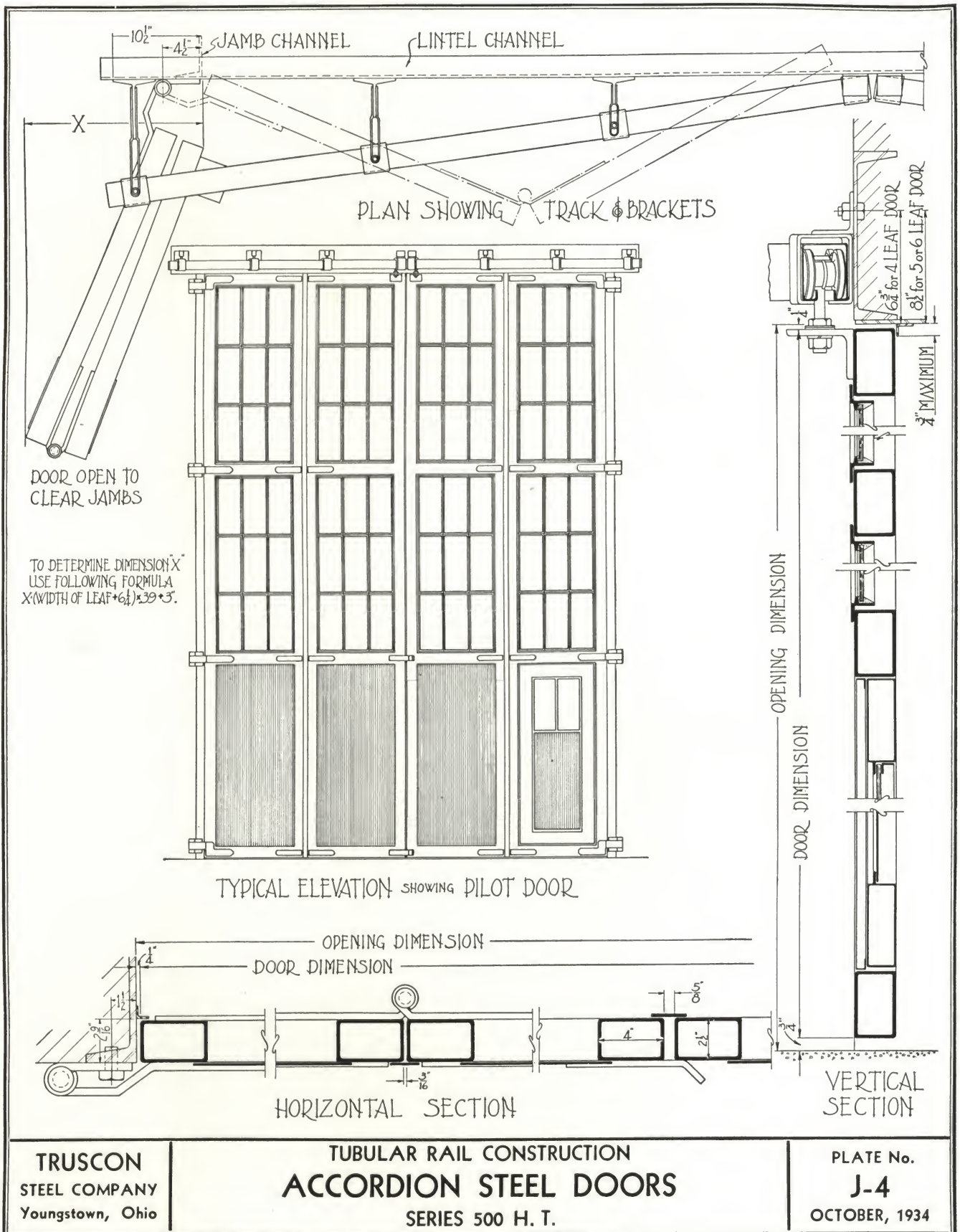
(8) **Cane Bolt**—Heavy designed cane bolt attached to inside of door leaves.

(9) **Construction of Doors**—Showing astragal, hinge and tube.

(10) **Steel Sash Joint**—Showing the dovetail mitered joint used in construction of steel sash in upper portion of door.

(11) **Tubular Door Stile**—Detail showing steel sash and tube rail of door.

(12) **Chain Bolt**—Specially designed extra heavy chain bolt used to fasten door at top.



MORGAN AIRPLANE HANGAR DOORS

THE Morgan Door represents the latest design of an electrically operated Canopy Door for large openings exceeding 100 feet in width and 25 feet or over in height. It is a door designed to withstand and operate against heavy wind loads and in so doing it transmits both live and dead loads directly to the building structure in a positive manner.

The Morgan Door requires very little space above the lintel to house operating mechanism which is simple and compact but very positive in its action.

The operating mechanism consists of two opposing racks, pinions, idlers and motor reducer unit together with the proper electrical control equipment to guarantee efficient and safe operation. All working parts are equipped with roller bearings and fittings for pressure lubrication.

The door is lifted by short lengths of cables fastened to the lower leaf and to the rigid operating members above the lintel. Counterweights that counterbalance the dead weight of the door are fastened to one end of each of the two racks. In these continuous connections, at a point where the power is applied are inserted the two opposing racks which transmits positive power. The use of rigid members wherever possible and short lengths of cable all of equal length minimizes and equalizes the stretch of the cable which will result in minor cable adjustments.

A system of arms, links and struts, cantilevered from the ceiling, in conjunction with rollers operating in an overhead track control the vertical structural members or posts which serve as the supports for the door facing. This combination of supports is spaced at intervals, usually about seventeen (17) feet apart, across the entire door opening and serve as mobile bracing so that the door can be designed to operate against any speci-

fied wind load without undue or dangerous deflection. The geometry of the supporting members is such that all reactions and stresses can be determined by the principles of statics for all partly open positions as well as for the fully open position of the door. In a closed position the posts are securely fastened automatically at the lintel and the floor becoming a rigid fixed member.

The door facing is divided horizontally into two leaves, the top one being hinged to the lintel and the bottom one hinged to the top leaf. As the door is lifted by the cables, the door leaves fold together, the top leaf entirely inside the building behind the lintel and the bottom leaf part inside and part outside to form a canopy over the opening. The top leaf serves as a baffle to prevent the wind from blowing in over the top of the door to damage the roof covering and to disturb the heat which collects near the roof.

The Morgan Door has been correctly designed and engineered to perform efficiently the proper functions of an airplane hangar door. It has the stability and rigidity typical of all well designed structures. At all stages of opening, there is a distinct position of equilibrium, always the same regardless of the magnitude of the lateral forces.

POINTS OF SUPERIORITY

1. All loads are distributed through structural steel.
2. It is held in the opening by mobile structural bracing.
3. It will operate against the specified wind load without undue or dangerous deflection.
4. One opening can be divided into any number of separate operating sections.
5. It will protect the roof covering and conserve heat.

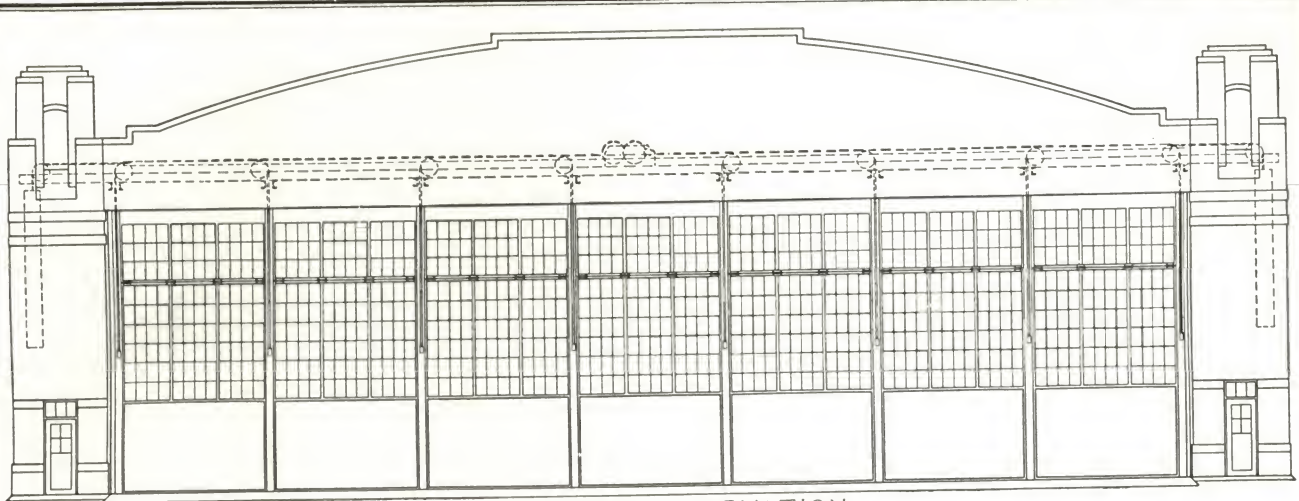


United States Coast Guard Hangar, Salem, Mass.

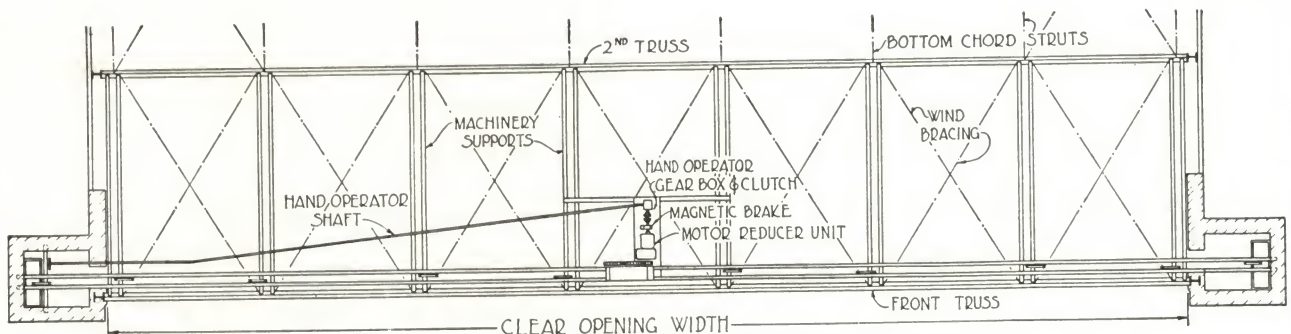
Truscon Morgan Type Steel Doors

Marden Construction Co., Inc., Contractors

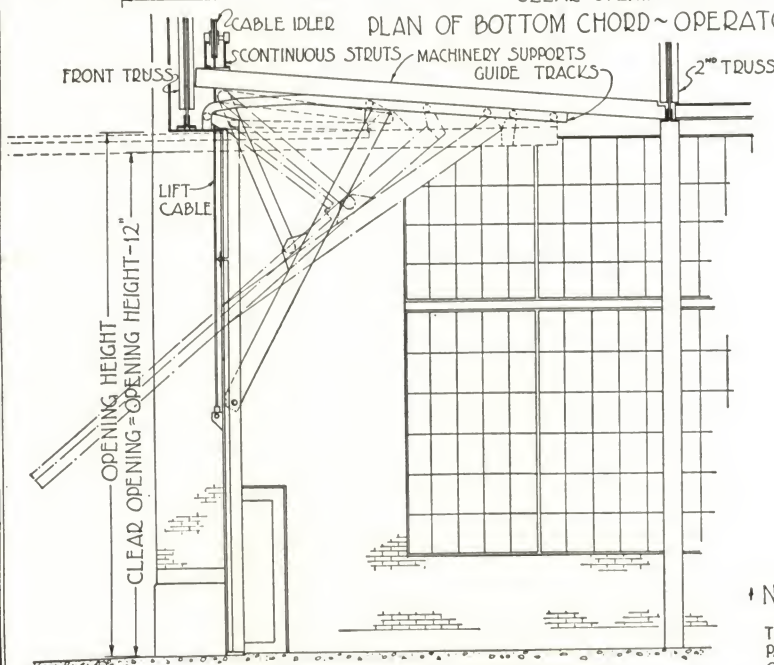
TRUSCON STEEL COMPANY—YOUNGSTOWN—OHIO—U.S.A.



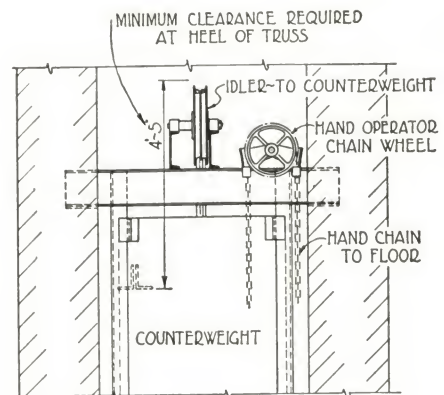
EXTERIOR ELEVATION



PLAN OF BOTTOM CHORD ~ OPERATOR & WEIGHT BOXES



VERTICAL SECTION ~ OPERATING CLEARANCES



VERTICAL SECTION THRU TOWER
SHOWING WEIGHT BOX

NOTE
DOOR MOVEMENT IS CONTROLLED BY LIMIT SWITCHES.
THREE BUTTON CONTROL STATION AND REVERSING DELAY
PANEL ARE LOCATED ON SIDEWALL ADJACENT TO JAMB OF
OPENING, EXACT LOCATION TO BE DETERMINED BY ARCHITECT.

TRUSCON
STEEL COMPANY
Youngstown, Ohio

ELEVATION AND CONSTRUCTION DETAILS
MORGAN TYPE STEEL DOORS

PLATE No.
J-40
OCTOBER, 1934

INSULMESH

Patent Applied For

TRUSCON

A Plaster Base that Deadens Sound—Insulates and Reinforces

AN EXCLUSIVE plaster base, consisting of expanded metal which is firmly fastened to a specially treated, $\frac{3}{8}$ in. thick waterproofed backing that insulates against heat, cold and sound. Adhesive strips hold the mesh in place until the sheets are erected, then the nails or staples used to attach the Insulmesh to the studs or joists carry the load. Through the use of the strips, puncturing of the insulation is obviated.

New improvements have been made in the insulating backing. The material is heavier and a new waterproofing, developed especially for it by The Truscon Laboratories, improves the quality considerably. This backing consists of two flat sheets which form the chords of a truss, with a corrugated center section forming the web member, thus developing a remarkable strength. Dead air spaces, created by the corrugated center section, have a very high insulating value against heat, cold and sound.

Insulmesh combines in one product: remarkable sound-deadening qualities, the low first cost of wood lath, the crack prevention and firesafety of metal lath and the plaster economy and insulating ability of fibre and plaster boards.

SUPERIOR REINFORCEMENT

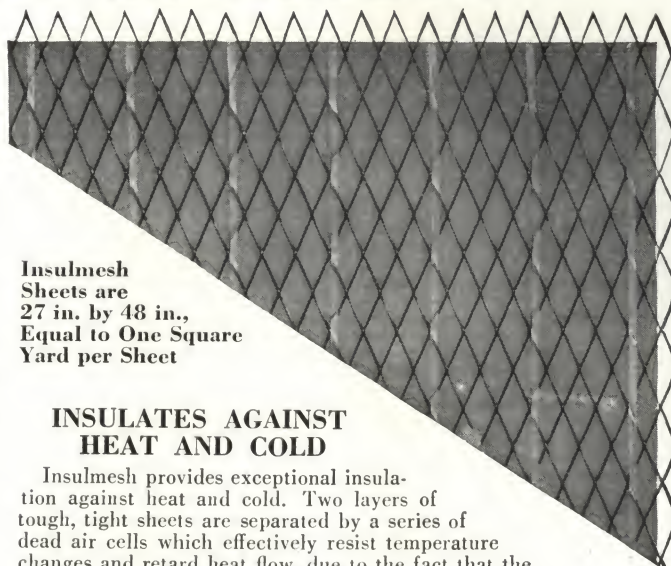
The mesh is made from 22-gauge steel, expanded into diamonds $1\frac{1}{2} \times 3$ in. This diamond-shaped mesh perfectly diffuses the stresses of concentrated loads, affords continuity of reinforcement and assures that every ounce of the metal is effective to resist tensile stresses. The expansion process causes it to become practically self-furring, so that when the plaster is applied, the steel becomes entirely embedded, affording a thorough reinforcing.

CONTINUOUS REINFORCEMENT

The diamond-shaped mesh extends beyond one side and end of the corrugated backing so that the metal laps at all joints, insuring uniform strength and preventing plaster cracks.

ECONOMICAL TO PLASTER

The rigidity of the sheet makes it easy to plaster over and level off. No plaster is wasted, for every particle goes on the surface. The mesh takes the plaster from the trowel and holds it in place. In effect, the entire job is "back-plastered."



Insulmesh
Sheets are
27 in. by 48 in.,
Equal to One Square
Yard per Sheet

INSULATES AGAINST HEAT AND COLD

Insulmesh provides exceptional insulation against heat and cold. Two layers of tough, tight sheets are separated by a series of dead air cells which effectively resist temperature changes and retard heat flow, due to the fact that the air in the wall does not have surface contact with the plaster. Insulmesh is the only plaster base which provides this air-cell insulation, in combination with steel reinforcing for the plaster.

SOUND-PROOFS

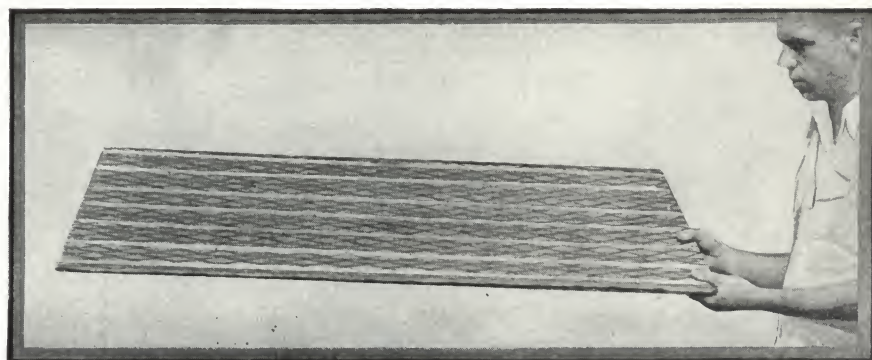
Insulmesh has remarkable sound-deadening qualities. The largest proportion of sound reduction is obtained through absorption by the dead air cells but, in addition, the rigid surface of Insulmesh reflects a certain amount. The fact that the absorbing surface is backed by the relatively dense, rigid plaster develops an ideal condition for retarding the passage of the sound waves.

SUITABLE FOR STUCCO

Insulmesh makes an excellent stucco base, for it performs the dual function of reinforcing the stucco with steel and serving as an insulating sheathing, or as an insulation over wood sheathing. The large-sized sheets are easy to erect and the overlapping joints give a continuous steel reinforcing.



Sturdy Cartons, Containing 40 Sheets,
Protect the Product and Facilitate
Handling and Storage

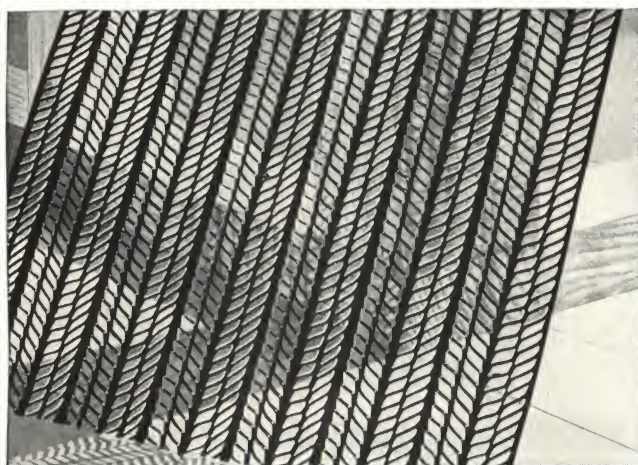


Rigid Sheets Speed Erection

TRUSCON STEEL COMPANY—YOUNGSTOWN—OHIO—U.S.A.

METAL LATH PRODUCTS AND ACCESSORIES

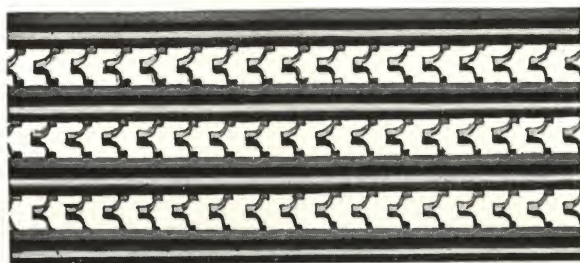
For Crackproof, Firesafe and
Economical Plaster Bases



Herringbone Doublemesh Lath



Diamond Lath



1-A METAL LATH

Sharply defined ribs $\frac{1}{2}$ in. wide, spaced $\frac{9}{16}$ in. apart, running full length of the sheet, provide a rigid plastering surface and resist the penetration and waste of excess plaster through the mesh. Two keys and four rudder-like projections per square inch provide a tenacious mechanical "key" for the plaster that is practically automatic with slight pressure.

Weight per square yard		Maximum stud spacing, in.		Maximum joist spacing, in.	
3.0 lbs.		20		20	
Length sheet, in.	Width sheet, in.	Sq. yd. per sheet	Sheets per bble.	Sq. yds. per bble.	Weight per bble.
96	24	1 7/9	9	16	48

Can be furnished in open hearth or copper-bearing steel—all painted.

HERRINGBONE DOUBLEMESH LATH

Doublemesh has the smallest mesh of any expanded lath and at the same time is the most rigid. This rigidity is obtained by a series of parallel reinforcing ribs that run lengthwise of the sheet. The sheets require no stretching and do not sag between supports so that studs may be placed further apart without sacrifice to the strength of the walls.

Weight per square yard				Sizes of sheets, in.	Sheets per bundle	Yards per bundle
Painted	Galva- nized	Copper- bearing	Toncan or Armco Iron			
2.75	...	...	...	24x96	9	16
3.0	...	3.0	3.0	24x96	9	16
3.4	3.4	3.4	3.4	24x96	9	16

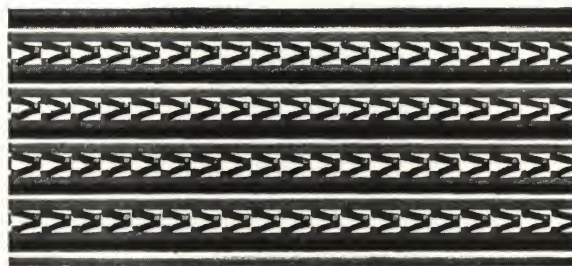
DIAMOND LATH

Truscon Diamond Laths are considered the most practical types of diamond lath on the market. Sheets are trimmed exactly 8 ft. 1 in. in length, with edges absolutely straight. The diamonds are small size, preventing workmen from wasting materials due to excessive pressure forcing plaster through on back side.

PROPERTIES, DIAMOND LATH AND SMALL MESH DIAMOND LATH

Weight yard	Length sheet, in.	Width sheet, in.	Sq. yds. sheet	Sheets bundle	Sq. yds. bundle	Weight bundle, lbs.
2.2	96	27	2	10	20	44
2.5	96	27	2	10	20	50
3.0	96	27	2	10	20	60
3.4	96	27	2	10	20	68
2.5	96	27	2	10	20	50
3.4	96	27	2	10	20	68

Can be furnished in either open hearth or copper-bearing steel. All material excepting galvanized is painted.



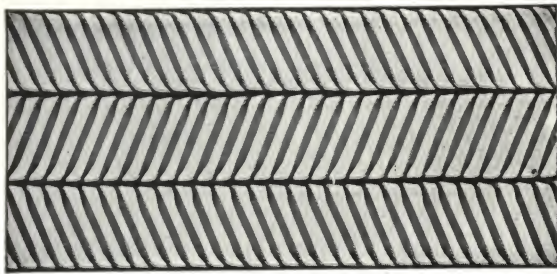
2-A METAL LATH

Truscon 2-A Metal Lath combines the smooth surface of sheet lath with the great rigidity and bond which are features of all Truscon A-Laths, Truscon 2-A Metal Lath is unequalled as a base for plaster. Its flat surface means speedy application of plaster and its closely spaced keys eliminate wastage.

Weight per square yard		Maximum stud spacing, in.		Maximum joist spacing, in.	
3.4 lbs.		24		24	
Length sheet, in.	Width sheet, in.	Sq. yd. per sheet	Sheets per bble.	Sq. yds. per bble.	Weight per bble.
96	22 3/4	1 7/10	10	17	57.8

Can be furnished in open hearth or copper-bearing steel—all painted.

TRUSCON STEEL COMPANY—YOUNGSTOWN—OHIO—U.S.A.



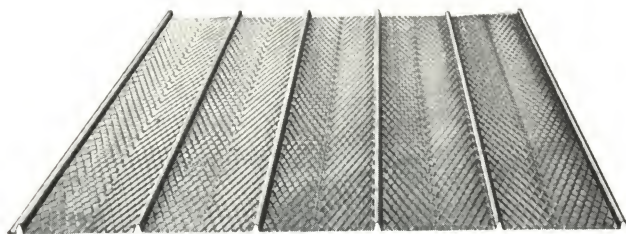
HERRINGBONE RIGID LATH

Herringbone Rigid Lath has the same general advantages as "Doublemesh," the difference being in the size of the mesh. It has the same rigidity, the same interlocking edges and forms the same remarkable key.

The ribs form "shelves" which hold the plaster from falling in back, so that every bit applied is held in place.

When used for partitions, either solid or hollow, Herringbone Rigid Lath offers the same construction and erection economies as when used for ceilings. The spacing of the studs may be increased from 16 in. for the 2.5 pound flat lath to 19½ in. for the 3 pound Herringbone.

Weight per square yard				Sizes of sheets in.	Sheets per bundle	Yards per bundle
Painted	Galvanized	Copper-bearing	Toncan or Armeo Iron			
2.2	2.2	2.2	2.2	20¼ x 96	15	22½
2.5	2.5	2.5	2.5	20¼ x 96	15	22½
3.0	3.0	3.0	3.0	20¼ x 96	15	22½
3.4	3.4	3.4	3.4	20¼ x 96	15	22½



3/8" DIAMOND RIB LATH

A self-furring lath with 3/8 in. deep ribs, which permits wide spacing of supports. Used principally as a base for plaster on ceilings, straight-away partition work with channels and for exterior stucco. It is particularly recommended as a base for plaster under steel joists and as a reinforcement for concrete slabs over steel joists. 3/8 in. Diamond Lath is manufactured with the rib integral with the mesh. 3/8 in. deep ribs spaced 4¾ in. on centers run full length of the sheet with the distance between the ribs spanned by rows of small size diamonds.

PROPERTIES, 3/8" DIAMOND RIB LATH

Weights per sq. yd.		Size of sheets, in.	Ribs spaced c-c, in.	Area of sheets per sq. yd.	Sheets per bundle	Yards per bundle
Painted	Copper bearing					
3.0	3.0	24x96	4.8	1-7/9	9	16
3.4	3.4	24x96	4.8	1-7/9	9	16
4.0	...	24x96	4.8	1-7/9	9	16

OTHER LATHS

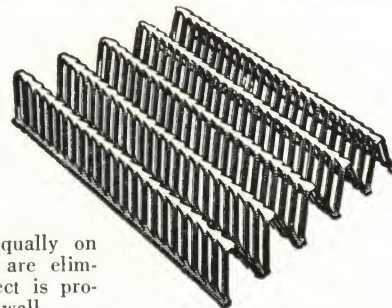
Metal Plasterbord, Sheet Lath, Stucco-Steel, 3/4 in. Hy-Rib, 3/8 in. Hy-Rib.

TRUSSIT

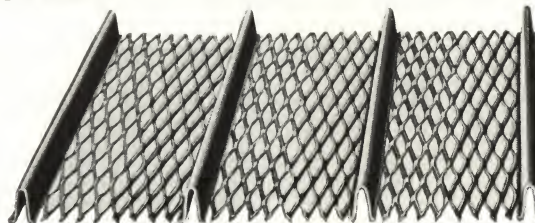
A specialized building product, designed for the purpose of reinforcing and forming fire-resistive concrete walls and partitions.

The use of Trussit as a reinforcement for solid exterior walls gives a construction in which the reinforcing is centrally located in the wall, producing a slab of uniform strength throughout.

Walls are quickly erected without forms, the cement plaster being applied to the Trussit equally on both sides. Form marks are eliminated and a pleasing effect is produced on each face of the wall.



	Length, ft.	Width, in.	Weight per sq. ft.
Painted	8, 10, 12	19	.57, .62 and .83 lbs.
Galvanized	8, 10, 12	19	.68, .88 lbs.
Toncan or Armeo	8, 10, 12	19	.57, .62 and .83 lbs.



SELF-SENTERING

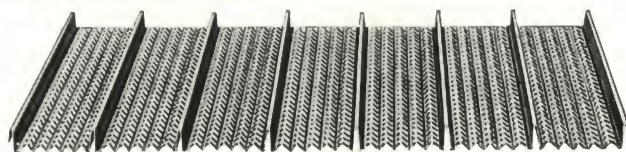
Self-Sentering is a ribbed expansion metal for concrete reinforcing and miscellaneous firesafe construction. It serves as both form and reinforcement for concrete floor work and as a combined steel lath and studding for walls and partitions.

Weight	Slab thickness							
	2 in.		2½ in.		3 in.		3½ in.	
	ft.	in.	ft.	in.	ft.	in.	ft.	in.
.56 lbs.	3	3	3	0	2	9	2	6
.65 lbs.	3	6	3	3	3	0	2	9
.75 lbs.	4	0	3	8	3	4	3	0

WEIGHTS AND SECTIONAL AREAS

Painted steel weight, per sq. ft.	Effective sectional area, per ft. of width	Standard lengths, ft.
.56 lbs.	.167 sq. in.	8, 10 and 12
.65 lbs.	.193 sq. in.	8, 10 and 12
.75 lbs.	.223 sq. in.	8, 10 and 12

Galvanized, Copper-bearing, or Armeo Self-Sentering on mill shipment, minimum of five tons one weight and length.



Truscon 3/4 in. Hy-Rib is a concrete reinforcement for floors, roofs, tanks and arches and for arched floors, balconies and other construction, where expensive wood forming is usually required.

PROPERTIES

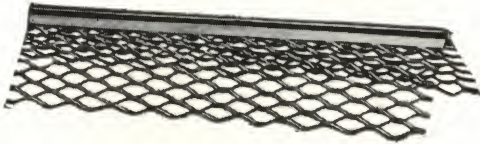
Weight per sq. ft., lbs.	Height of ribs, in.	Ribs spaced c-c, in.	No. Ribs per sheet	Width of sheet, in.	Effective sectional area per ft. of width, sq. in.
.58	3/4	4	8	28	.1152
.68	3/4	4	8	28	.1407
.78	3/4	4	8	28	.1642

Length sheet, ft.	Width sheet, in.	Sq. ft. per sheet	Sheets per bundle	Sq. ft. per bundle	Wt. per bundle		
					.58 lb. per sq. ft.	.68 lb. per sq. ft.	.78 lb. per sq. ft.
6	28	14	8	112	65.0	76.1	87.4
8	28	18½	8	149½	86.6	101.6	116.5
10	28	23½	8	186½	108.3	126.9	145.6
12	28	28	8	224	129.9	152.3	174.7

Can be furnished in either Copper-Bearing or Open Hearth Steel—all painted.

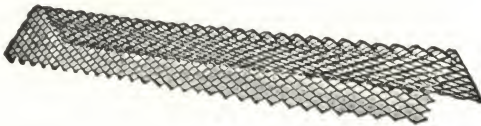
TRUSCON STEEL COMPANY—YOUNGSTOWN—OHIO—U.S.A.

METAL LATH ACCESSORIES



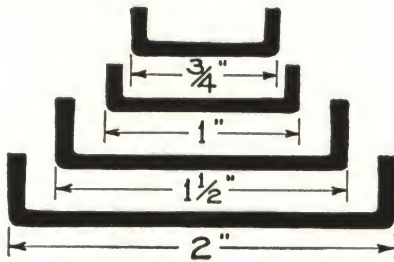
EXPANDED CORNER BEAD

Expanded corner bead weighs 0.21 pounds per lin. ft. furnished in 6, 7, 8, 9, 10 and 12-ft. lengths, bundled 10 pieces to the bundle. It can be furnished cut from zinc strip if desired.



CORNERITE

Cornerites are used for plaster base at inside corners. Flanges are 4 in. wide, sheets 8 ft. 1 in. long, bundled in lots of 25 pieces or 400 ft. Protected with a coat of black asphalt paint.



COLD ROLLED CHANNELS

Size, ins., $\frac{3}{4}$, 1, $1\frac{1}{2}$, 2.

Weight in pounds per lin. ft., .276, .332, .442, .553.

No. 16 gauge (thickness .065 in.).

$\frac{3}{4}$ and 1 in. shipped packed in bundles of 25 channels, and $1\frac{1}{2}$ and 2 in., 10 in a bundle.



WIDE FLANGED CORNER BEAD

Especially adapted to all nail-on work.

Weight 330 lbs. per 1000 ft. Manufactured from 26 gauge best grade steel and furnished in standard lengths 6, 7, 8, 9, 10 and 12 ft., packed 10 pieces to the bundle.



RIB STEEL CORNER BEAD

Lengths, 6, 8, 9, 10 and 12 ft.

Packed 10 pieces to bundle—10 bundles to crate.

Crate weight, 20 lbs. per 1000 ft. Manufactured from 26 gauge high grade steel.



BULL NOSE CORNER BEAD

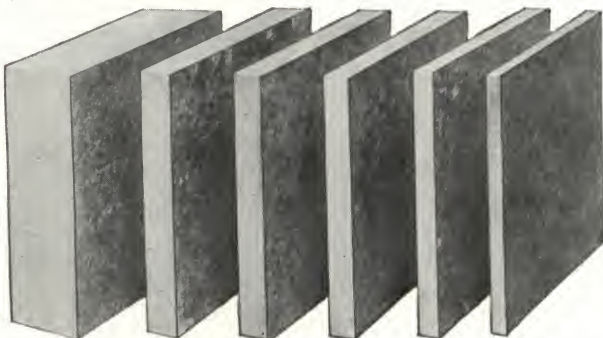
$\frac{3}{4}$ -in. radius. Medium length flange. 24 Gauge.

Shipping weight approximately 420 lbs. per 1000 ft.

Standard lengths, 6, 7, 8, 9, 10, 11 and 12 ft.

FERROCLAD STRUCTURAL PANELS

STEEL or non-ferrous metal on one or both sides with insulated, acoustic, fire-resisting or rigid type cores, manufactured in panel sizes up to 4 ft. x 12 ft. and in any thickness from $\frac{1}{8}$ in. upwards. Metal faced and core material cemented together under hydraulic pressure with a non-corrosive, waterproof cement capable of withstanding temperature between minus 110 degrees to 850 degrees, without giving off odors or having any deterioration.



PANEL TYPES

Ferroclad Insulated Structural Panels—Internal conductance .33 B.t.u. per square foot per hour per degree of temperature difference per inch thickness. Can be used between temperatures of 0 degrees to 250 degrees Fahrenheit.

Ferroclad Acousti-Panels—Internal conductance .33 B.t.u. per square foot per hour per degree of temperature difference. Sound absorption co-efficient .30, .47 or .70.

Recommended for:

Dryers and Kilns, Low and High Temperature
Rigid Radiator Enclosures and Conduits
Insulation Backs for Radiators
Insulated Ceilings, Wall or Roof Construction
Air Duct Construction
Refrigerators and Cold Storage Plants
Blower and Fan Panel Construction
Panels for Oven Construction
Panels for Residential Furnace and Boiler Construction
Panels for Air Cleaning, Cooling and Humidifying Equipment

"O-T" OPEN TRUSS STEEL JOISTS

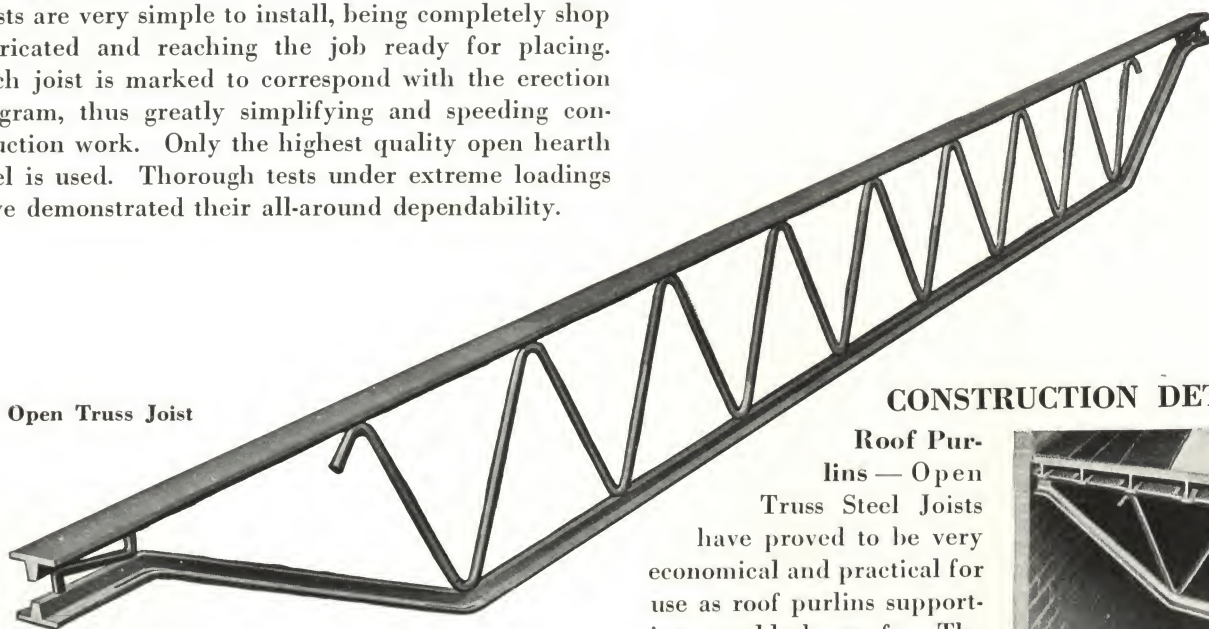
TO meet the demand for economical, light weight and fireproof floors, Truscon has developed the "O-T" Open Truss Steel Joist which is designed according to the best engineering practice and offers many advantageous and distinctive features. In effect, the entire design is unusually efficient as well as exceptionally economical of materials.

Fundamentally, the Truscon "O-T" Open Truss Steel Joist is a Warren truss having top and bottom chords of wide tee-shaped members to provide the greatest resistance to buckling strains. The bottom tee is continuous to the bearings, where it is welded with the web member and the top chord. Web members are continuous from end to end so that stresses are transmitted perfectly. High pressure electric welding is used to make positive connections at all joints.

The underslung design of the bearing permits maximum headroom under the supporting girders. The open web allows the passage of pipes and conduits of any number and in any direction.

In practical use Truscon "O-T" Open Truss Steel Joists are very simple to install, being completely shop fabricated and reaching the job ready for placing. Each joist is marked to correspond with the erection diagram, thus greatly simplifying and speeding construction work. Only the highest quality open hearth steel is used. Thorough tests under extreme loadings have demonstrated their all-around dependability.

Open Truss Joist

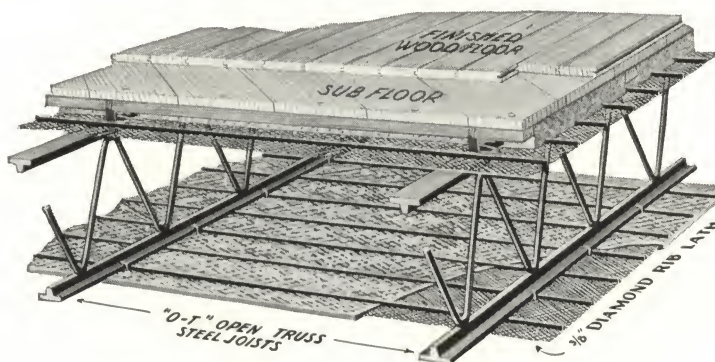


ADAPTABILITY

Truscon "O-T" Open Truss Steel Joists are adaptable to all types of buildings, regardless of their location, and in small buildings at practically the same cost per square foot as in skyscrapers. Fireproof construction is thus made available in many buildings where other systems of fireproof construction would not be practical.

For Economical and Fireproof Floors

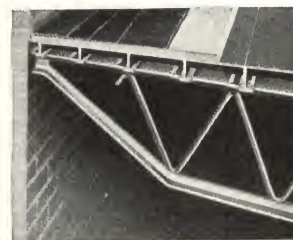
Designed and manufactured in accordance with the specifications of the Steel Joist Institute and the Simplified Practice Recommendations (S.P.R. 9430) on Open Web Steel Joists as issued by the U. S. Department of Commerce, Bureau of Standards.



Truscon Open Truss Steel Joist Construction with Finished Floor of Wood Secured by Means of Screeds placed at Right Angles to the Joists and Elevated to Provide for Concrete Underneath

CONSTRUCTION DETAILS

Roof Purlins — Open Truss Steel Joists have proved to be very economical and practical for use as roof purlins supporting steeldeck roofs. The method of attaching the roof to the steel joists is very simple and positive, as shown in illustration.



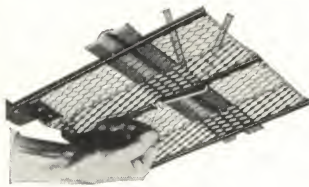
Roof Purlins

Nailing Screed—Occasionally, it is desired to attach a wood roof deck to Truscon "O-T" Open Truss Steel Joists used as roof purlins. Nailing screeds are required in this construction and they may be attached either directly over the joists or at right angles to them.

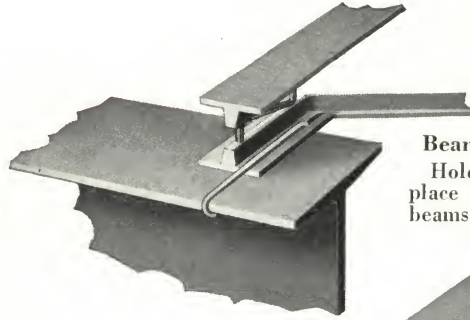
ACCESSORIES



Bottom Chord Extension
Easily attached after the steel joists are in place.



Lath Clips
Made in different sizes to meet the different sizes of joist members. When attaching the ceiling lath, the clips should straddle the lath rib.



Beam Anchor No. 3
Holds the joists in place on structural steel beams.

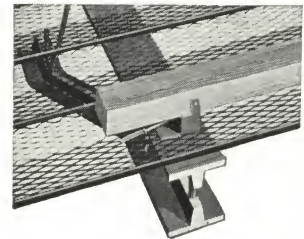


Wall Anchor No. 5
Affords additional bond between floor and wall construction when wall is of such a height or nature as to be not self-sustaining.



Strut Bridging
Made of $\frac{3}{4}$ in. box channels and cut to lengths to meet exact spacing of joists. Simply and easily installed, holding the joists in a vertical plane and assuring accurate spacing and distribution of loads by acting both in tension and compression.

Screed Clip No. 3
Used when it is desired to elevate the screeds so that concrete can be poured beneath them. A lath clip of proper size is used to hold the screed clip in place.



SPECIFICATIONS "O-T" JOISTS FLOOR AND ROOF CONSTRUCTION WITH CONCRETE SLAB

General—Where Steel Joist floor construction is specified, it shall be understood to mean Truscon "O-T" Steel Joists of the size and spacing as shown on the drawings, together with a structural concrete slab over the joists supported by metal lath firmly attached to the joists.

The Steel Joists shall be made of rolled steel shapes fabricated by high pressure electric automatic welding. The web member shall be a continuous plain round bar of constant diameter bent cold. The chords shall be Tee shaped sections, the top chord being straight and the bottom chord bent up to form the bearing. The design and details of all members shall meet the requirements of the Steel Joists Institute Specifications.

Painting—All steel joists shall be spray painted with one shop coat of good metal protective paint.

Slab Reinforcement—The top concrete slab shall be reinforced and supported by $\frac{3}{8}$ in.* Rib Lath weighing not less than 4.0 lbs. per square yard; the lath to be placed with the ribs up and at right angles to the joists. The lath shall be attached to the top of the joists by means of lath clips spaced 12 in. apart. Where the floor finish is other than wood, the structural slab shall be reinforced with a No. 10 gauge 6x6 in. welded steel fabric.

*For joists spaced over 24 in. apart $\frac{3}{4}$ in. .58 lb. Hyrib must be used.

Bearing and Anchorage—Joists shall have a minimum bearing of 4 in. on concrete or masonry and $2\frac{1}{2}$ in. on steel. Every third joist bearing on masonry walls shall be anchored. Joists parallel to walls shall have the top and bottom chords anchored at the line of the rows of bridging. Every joist bearing on structural steel beams shall be fastened by an anchor (or welding).

Bridging—As soon as joists have been erected and before the application of construction loads, joists shall be bridged, with diagonal strut type bridging fabricated from $\frac{3}{4}$ in. channels. For spans up to 14 ft. 0 in. one row of bridging is required, two rows between 14 ft. 0 in. and 21 ft. 0 in., and three rows over 21 ft. 0 in.

Ceilings—Where directly attached ceiling occurs Bottom Chord Extensions shall be provided.

Wood Floors—Where wood floors are specified, screed clips shall be secured to the joists to receive 2x1 in. screeds placed at right angles to the joists and spaced 16 in. apart. The clip shall raise the screed 1 in. above the joists.

Note: The Steel Joists Institute Specification limits the spacing of joists to 24 in. for floors, 30 in. for roofs having a poured concrete slab and 7 ft. for roofs having a steel deck or wood roof.

"O-T" STEEL JOIST LOADING TABLE

The following table gives the TOTAL safe uniformly distributed load carrying capacities of Truscon "O-T" Open Truss Steel Joists at various spacings. The weight of DEAD loads must in all cases be deducted to determine the LIVE load carrying capacities of the Joists.

TABLE No. 1

Clear Span	Joist Type	Total Safe Load Pounds	TOTAL SAFE LOADS IN POUNDS PER SQUARE FOOT FOR VARIOUS JOIST SPACINGS																	
			12"	14"	16"	17"	18"	19"	20"	21"	22"	23"	24"	30"	3'-0"	3'-6"	4'-0"	5'-0"	6'-0"	7'-0"
6'-0"	81	3200	530	457	400	376	356	337	320	305	291	278	267	213	178	153	134	106	89	76
7'-0"	81	2810	402	344	301	283	268	254	241	229	219	209	202	160	134	115	101	80	67	57
8'-0"	81	2460	308	264	231	217	205	194	184	176	168	160	154	123	103	88	77	61	51	44
	82	3800	475	407	356	335	316	300	285	271	259	248	238	190	158	136	119	95	79	68
9'-0"	81	2180	243	208	182	171	162	153	145	138	132	127	121	97	81	69	61	48	40	34
	82	3800	422	362	316	298	282	266	254	242	230	220	211	169	141	121	106	84	70	60
10'-0"	81	1970	197	169	148	139	131	125	118	113	108	103	99	79	66	57	50	39	33	28
	82	3500	350	300	263	247	233	221	210	200	191	183	175	140	117	100	88	70	58	50
	102	3800	380	326	285	268	253	240	228	217	207	198	190	152	127	109	95	76	63	54
	103	3900	390	334	292	275	260	246	234	223	213	203	195	156	130	112	98	78	65	56
	104	4400	440	377	330	312	293	278	264	252	240	230	220	176	147	126	110	88	73	63
11'-0"	81	1780	162	139	121	114	108	102	97	92	89	85	81	65	54	46	41	32	26	21
	82	3180	289	248	217	205	193	183	174	165	158	151	145	116	97	83	73	58	48	41
	102	3800	346	297	259	244	230	218	208	197	189	180	173	138	115	99	87	69	57	49
	103	3900	355	304	266	250	236	224	213	202	194	185	178	142	118	101	89	71	59	50
	104	4400	400	343	300	283	267	253	240	228	218	208	200	160	134	114	100	80	67	57
12'-0"	81	1635	137	117	102	96	91	86	82	78	74	71	68	55	46	39	34	28	23	19
	82	2920	243	208	183	172	162	154	146	139	133	127	122	98	81	70	61	49	40	35
	102	3500	292	250	219	206	194	184	175	167	159	152	146	117	97	84	73	58	48	42
	103	3900	325	279	244	230	217	205	195	186	177	170	163	130	109	93	82	65	54	46
	104	4400	367	314	275	259	244	232	220	210	200	191	183	147	122	105	92	73	61	52
	123	4400	367	314	275	259	244	232	220	210	200	191	183	147	122	105	92	73	61	52
	124	4600	384	329	288	271	256	242	230	219	209	200	192	153	128	110	96	76	64	55
	125	5000	417	358	312	294	278	263	250	238	228	218	208	167	139	119	104	83	69	59
	126	5400	450	386	338	318	300	284	270	257	246	235	225	180	150	129	113	90	75	64
13'-0"	81	1510	116	100	87	82	78	73	70	66	63	61	58	46	39	33	29	23	19	16
	82	2690	207	177	155	146	138	131	124	118	113	108	103	83	69	59	52	41	34	29
	102	3230	248	213	187	176	166	157	149	142	136	130	124	99	83	71	62	49	41	35
	103	3900	300	257	225	212	200	190	180	172	164	157	150	120	100	86	75	60	50	43
	104	4400	338	290	254	239	225	214	203	193	184	177	169	135	113	97	85	67	56	48
	123	4400	338	290	254	239	225	214	203	193	184	177	169	135	113	97	85	67	56	48
	124	4600	354	303	265	250	236	224	212	202	193	185	177	142	118	101	89	71	59	50
	125	5000	384	330	288	272	256	243	231	220	210	201	192	154	129	110	96	77	64	55
	126	5400	415	356	312	293	277	262	249	237	226	217	208	166	139	119	104	83	69	59
14'-0"	81	1400	100	86	75	71	67	63	60	57	55	52	50	40	34	29	25	20	16	13
	82	2500	178	153	134	126	119	113	107	102	98	93	89	71	60	51	45	35	30	25
	102	3000	214	184	161	152	143	135	129	123	117	112	107	86	72	62	54	43	36	31
	103	3900	278	239	209	197	186	176	167	159	152	145	139	111	93	80	70	55	46	40
	104	4400	314	270	236	222	210	199	189	180	172	164	157	126	105	90	79	63	52	45
	123	4380	313	268	235	221	209	198	188	179	171	163	156	125	105	90	78	62	52	45
	124	4600	328	282	246	232	219	208	197	188	179	171	164	131	110	94	82	65	55	47
	125	5000	357	306	268	252	238	226	214	204	195	187	179	143	119	102	90	71	59	51
	126	5400	386	331	289	272	257	244	232	220	210	201	193	154	129	110	97	77	64	55
	145	5800	414	355	311	292	276	262	248	237	226	216	207	166	138	119	104	83	69	59
	146	6200	443	380	332	313	296	280	266	253	242	231	222	177	148	127	111	88	74	63
147	6800	486	416	364	343	324	307	292	278	265	254	243	194	162	139	122	97	81	69	
15'-0"	81	1310	87	75	66	62	58	55	52	50	48	46	44	35	29	24	20	16	13	11
	82	2330	155	133	116	110	104	98	93	89	85	81	78	62	52	44	39	31	25	21
	102	2810	187	161	141	132	125	118	112	107	102	98	94	75	63	54	47	38	31	26
	103	3640	243	208	182	172	162	153	146	139	133	127	122	97	81	69	61	49	41	35
	104	4400	293	252	220	207	196	185	176	168	160	153	147	117	98	84	73	59	49	42
	123	4090	272	234	204	192	182	172	163	156	148	142	136	109	91	78	68	55	46	39
	124	4600	307	263	230	217	204	194	184	175	167	160	153	123	102	88	77	61	51	44
	125	5000	333	286	250	235	222	210	200	191	182	174	167	133	111	96	84	67	56	48
	126	5400	360	308	270	254	240	227	216	206	196	188	180	144	120	103	90	72	60	52
	145	5800	387	332	290	273	258	244	232	221	211	202	193	155	129	111	97	78	64	56
	146	6200	413	354	310	292	276	261	248	236	225	216	207	165	138	118	104	83	69	59
	147	6800	454	389	340	320	302	286	272	259	248	237	227	181	151	130	114	91	75	65

TABLE No. 1 (Continued)

Clear Span	Joist Type	Total Safe Load Pounds	TOTAL SAFE LOADS IN POUNDS PER SQUARE FOOT FOR VARIOUS JOIST SPACINGS																		
			12"	14"	16"	17"	18"	19"	20"	21"	22"	23"	24"	30"	3'-0"	3'-6"	4'-0"	5'-0"	6'-0"	7'-0"	
16'-0"	81	1230	77	66	58	54	51	49	46	44	42	40	38	31	.....	.....	.....	.....	.....	.....	
	82	2190	137	117	103	97	91	86	82	78	75	71	68	55	46	39	34	.....	.....	.....	
	102	2630	164	141	123	116	110	104	99	94	90	86	82	66	55	47	41	33	.....	.....	
	103	3420	213	182	160	150	142	134	128	122	116	111	106	85	71	61	53	43	35	30	
	104	4170	260	223	195	184	173	164	156	149	142	136	130	104	87	74	65	52	43	37	
	123	3840	240	206	180	170	160	152	144	137	131	125	120	96	80	69	60	48	40	34	
	124	4600	287	246	216	203	192	182	172	164	157	150	144	115	96	82	72	58	48	41	
	125	5000	312	268	234	221	208	197	187	178	170	163	156	125	104	89	78	63	52	44	
	126	5400	337	289	253	238	225	213	202	193	184	176	169	135	113	97	85	68	57	48	
	145	5800	363	311	272	256	242	229	218	208	198	189	182	145	121	104	91	73	61	52	
	146	6200	387	332	290	274	258	245	233	222	212	202	194	155	129	111	97	78	64	56	
	147	6800	425	364	319	300	283	268	255	243	232	222	213	170	142	122	107	85	71	61	
	166	6400	400	343	300	282	266	253	240	228	218	208	200	160	133	114	100	80	67	57	
	167	7200	450	386	338	318	300	284	270	257	246	235	225	180	150	129	113	90	75	64	
17'-0"	102	2470	145	125	109	103	97	92	87	83	79	76	73	58	48	42	36	29	.....	.....	
	103	3220	189	162	142	134	126	120	114	108	103	99	95	76	63	54	47	38	32	.....	
	104	3920	230	197	173	162	153	145	138	132	126	120	115	92	77	66	58	46	38	33	
	123	3610	212	182	159	150	142	134	127	121	116	111	106	85	71	61	53	43	35	30	
	124	4510	265	227	199	187	177	168	159	152	145	139	133	106	88	76	66	53	44	38	
	125	5000	294	252	220	208	196	186	177	168	161	154	147	118	98	84	74	59	49	42	
	126	5400	318	272	238	224	212	201	191	182	173	166	159	127	106	91	80	64	53	45	
	145	5800	342	292	256	241	228	215	205	195	186	178	171	137	114	98	86	69	57	49	
	146	6200	365	313	273	258	243	230	219	209	199	191	183	146	122	105	92	73	61	52	
	147	6800	400	343	300	282	267	253	240	229	219	209	200	160	134	115	100	80	67	57	
	166	6400	376	323	282	266	251	238	226	215	205	197	188	151	126	108	94	76	63	54	
	167	7200	424	363	318	299	283	268	255	242	231	221	212	170	142	121	106	85	71	60	
	18'-0"	102	2330	129	111	97	92	86	82	78	74	71	68	65	52	43	37	32			
		103	3040	169	145	127	119	113	107	101	97	92	88	85	68	56	48	42	34		
104		3710	205	177	155	146	138	130	124	118	113	108	103	83	69	59	52	41	34	30	
123		3410	189	163	142	134	126	120	114	108	103	99	95	76	63	54	47	38	32	27	
124		4260	236	203	178	167	158	150	142	135	129	124	119	95	79	68	59	47	39	34	
125		5000	278	238	208	196	185	175	167	159	152	145	139	111	93	79	70	56	46	40	
126		5400	300	257	225	212	200	190	180	172	164	157	150	120	100	86	75	60	50	43	
145		5780	321	275	240	227	214	203	193	184	175	168	161	129	107	92	81	65	54	46	
146		6200	344	295	259	243	230	218	207	197	188	180	172	138	115	99	86	69	58	49	
147		6800	378	324	284	267	252	239	227	216	206	197	189	151	126	108	95	76	63	54	
166		6400	356	305	267	251	237	225	213	203	194	186	178	143	119	102	89	72	60	51	
167		7200	400	343	300	282	267	253	240	229	219	209	200	160	134	115	100	80	67	57	
19'-0"		102	2210	116	100	87	82	78	74	70	66	63	61	58	47	39	33	29			
		103	2880	151	130	114	107	101	96	91	87	83	79	76	61	51	43	38	30		
	104	3510	184	159	139	131	123	117	111	106	101	97	93	74	62	53	46	37	31	.....	
	123	3230	170	146	128	120	113	107	102	97	93	89	85	68	57	49	42	34	28	.....	
	124	4040	212	183	160	150	142	135	128	122	116	111	106	85	71	61	53	43	35	.....	
	125	4990	263	225	197	186	175	166	158	150	143	137	132	105	88	75	66	53	44	38	
	126	5400	284	244	214	201	190	180	171	162	155	148	142	114	95	81	71	57	47	41	
	145	5480	288	247	217	204	193	183	173	165	158	151	145	115	96	83	72	58	48	41	
	146	6200	326	280	245	230	218	206	196	187	178	170	163	131	109	93	82	65	55	47	
	147	6800	358	307	269	253	239	226	215	205	195	187	179	143	120	102	90	72	60	51	
	166	6400	337	289	253	238	225	213	202	193	184	176	168	135	112	97	84	68	56	49	
	167	7200	379	325	284	268	253	239	227	217	207	198	190	152	127	108	95	76	64	54	
	20'-0"	102	2100	105	90	79	74	70	66	63	60	57	55	53	42	35	30				
		103	2730	137	117	102	96	91	86	82	78	75	71	68	55	46	39	34			
104		3340	167	143	125	118	111	105	100	95	91	87	84	67	56	48	42	33	.....	.....	
123		3060	153	131	115	108	102	97	92	88	84	80	77	61	51	44	38	31	.....	.....	
124		3830	192	164	144	135	128	121	115	109	104	100	96	77	64	55	48	38	32	.....	
125		4740	237	203	178	168	158	150	142	135	129	124	119	95	79	68	59	47	40	34	
126		5400	270	232	203	191	180	171	162	154	148	141	135	108	90	77	68	54	45	39	
145		5200	260	223	195	184	174	164	156	149	142	136	130	104	87	74	65	52	43	37	
146		6200	310	266	232	219	207	196	186	177	169	162	155	124	103	89	78	62	52	44	
147		6800	340	292	255	240	227	215	204	195	186	178	170	136	113	97	85	68	56	49	
166		6400	320	275	240	226	213	202	192	183	175	167	160	128	106	92	80	64	53	46	
167		7200	360	309	270	254	240	228	216	206	197	188	180	144	120	103	90	72	60	52	

For floor construction joists should not be spaced over 24 in. o. c.

TABLE No. 1 (Continued)

Clear Span	Joist Type	Total Safe Load Pounds	TOTAL SAFE LOADS IN POUNDS PER SQUARE FOOT FOR VARIOUS JOIST SPACINGS																	
			12"	14"	16"	17"	18"	19"	20"	21"	22"	23"	24"	30"	3'-0"	3'-6"	4'-0"	5'-0"	6'-0"	7'-0"
21'-0"	123	2920	139	119	104	98	93	88	83	79	76	73	70	56	46	40	35	.....	.....	.....
	124	3650	174	149	130	123	116	110	104	99	95	91	87	70	58	50	43	35	29	.....
	125	4510	215	184	161	152	143	136	129	123	117	112	107	86	72	61	54	43	36	31
	126	5400	257	220	193	182	172	162	154	147	140	134	129	103	86	73	64	52	43	37
	145	4950	236	202	177	166	157	149	142	135	129	123	118	94	79	67	59	47	39	34
	146	6200	295	253	222	209	197	187	177	169	161	154	148	118	99	84	74	59	49	42
	147	6800	324	277	243	229	216	205	194	185	177	169	162	129	108	93	81	65	54	46
	166	6400	305	261	229	215	203	193	183	174	166	159	153	122	102	87	77	61	51	44
167	7200	343	294	257	242	229	217	206	196	187	179	172	137	115	98	86	69	58	49	
22'-0"	123	2790	127	109	95	90	85	80	76	73	69	66	63	51	42	36	32	.....	.....	.....
	124	3480	158	136	119	112	105	100	95	91	86	83	79	63	53	45	40	32	.....	.....
	125	4300	196	168	147	138	130	124	117	112	107	102	98	78	65	56	49	39	32	.....
	126	5300	241	207	181	170	161	152	145	138	132	126	121	97	80	69	60	48	40	34
	145	4730	215	185	162	152	144	136	129	123	117	112	108	86	72	61	54	43	36	31
	146	6200	282	242	212	199	188	178	169	161	154	147	141	111	94	80	70	56	47	40
	147	6800	309	265	232	218	206	195	185	177	168	161	154	123	103	88	77	62	52	44
	166	6400	291	250	218	206	194	184	175	166	159	152	146	116	97	83	73	58	48	42
167	7200	327	280	245	231	218	206	196	187	178	171	164	131	109	93	82	65	54	47	
23'-0"	123	2670	116	100	87	82	77	73	70	66	63	61	58	46	39	33	29	.....	.....	.....
	124	3330	145	124	109	102	97	92	87	83	79	76	72	58	48	41	36	29	.....	.....
	125	4120	179	154	134	126	119	113	107	102	98	94	90	72	60	51	45	36	30	.....
	126	5060	221	189	165	155	147	139	132	126	120	115	110	88	74	63	55	44	37	31
	145	4520	197	169	147	139	131	124	118	112	107	103	98	79	66	56	49	39	33	28
	146	5940	258	221	194	182	172	163	155	147	141	135	129	103	86	74	65	52	43	37
	147	6800	296	254	222	209	197	187	178	169	161	154	148	118	99	84	74	59	49	42
	166	6400	278	238	209	197	186	176	167	159	152	145	139	111	93	80	70	56	46	40
167	7200	313	268	235	221	209	198	188	179	171	163	157	125	104	90	79	62	53	45	
24'-0"	123	2550	106	91	80	75	71	67	64	61	58	55	53	42	35	30	.....	.....	.....	.....
	124	3190	133	114	100	94	89	84	80	76	73	69	67	53	44	38	33	.....	.....	.....
	125	3950	164	141	124	116	110	104	99	94	90	86	82	66	55	47	41	33	.....	.....
	126	4860	202	174	152	143	135	128	121	116	110	105	101	81	68	58	51	41	34	.....
	145	4340	180	155	135	127	120	114	108	103	99	94	90	72	60	52	45	36	30	.....
	146	5690	237	203	178	168	158	150	142	135	129	124	119	95	79	68	59	47	40	34
	147	6800	283	242	212	200	189	179	170	162	155	148	142	113	94	81	71	57	47	41
	166	6400	267	228	200	188	178	168	160	152	145	139	133	107	89	76	67	53	44	38
167	7200	300	257	225	212	200	190	180	171	164	157	150	120	100	85	75	60	50	43	
25'-0"	145	4160	166	142	125	117	111	105	100	95	91	87	83	66	56	48	42	33	.....	.....
	146	5450	218	187	163	154	145	137	131	125	119	114	109	87	73	62	55	44	36	31
	147	6560	262	225	197	185	175	166	157	150	143	137	131	105	88	75	66	53	44	38
	166	6180	247	212	186	175	165	156	148	141	135	129	124	99	82	71	62	49	41	35
	167	7200	288	247	216	204	192	182	173	165	157	150	144	115	96	82	72	58	48	41
26'-0"	145	4000	154	132	115	108	102	97	92	88	84	80	77	61	51	44	38	31	.....	.....
	146	5250	202	173	152	143	135	128	121	115	110	105	101	81	67	58	51	40	34	.....
	147	6300	243	208	182	171	162	153	146	138	132	127	121	97	81	69	61	49	41	35
	166	5950	229	196	172	162	153	145	137	131	125	119	115	92	76	65	57	46	38	33
	167	7200	277	237	208	196	184	175	166	158	151	145	139	111	92	79	69	55	46	40
27'-0"	145	3850	143	122	107	101	95	90	86	82	78	75	71	57	48	41	36	29	.....	.....
	146	5050	187	160	140	132	125	118	112	107	102	98	94	75	62	53	47	37	31	.....
	147	6070	225	193	169	159	150	142	135	129	123	117	112	90	75	64	56	45	37	32
	166	5730	212	182	159	150	141	134	127	121	116	111	106	85	71	61	53	43	35	30
	167	6940	257	220	193	181	171	162	154	147	140	134	128	103	86	74	64	51	43	37
28'-0"	145	3720	133	114	100	94	89	84	80	76	72	69	66	53	44	38	33	.....	.....	.....
	146	4880	174	149	131	123	116	110	105	100	95	91	87	70	58	50	44	35	29	.....
	147	5850	209	179	157	147	139	132	125	120	114	109	105	84	70	60	52	42	35	30
	166	5520	197	169	148	139	131	124	118	113	107	103	99	79	66	56	49	39	33	28
	167	6690	239	205	179	169	159	151	143	137	130	125	119	96	80	68	60	48	40	34
29'-0"	166	5340	184	158	138	130	123	116	111	105	100	96	92	74	61	53	46	37	31	.....
	167	6460	223	191	167	157	148	141	134	127	122	116	111	89	74	64	56	45	37	32
30'-0"	166	5150	172	147	129	121	114	109	103	98	94	90	86	69	57	49	43	34	.....	.....
	167	6240	208	178	156	147	139	131	125	119	113	108	104	83	69	59	52	42	35	30
31'-0"	166	4990	161	138	121	114	107	102	97	92	88	84	81	64	54	46	40	32	.....	.....
	167	6050	195	167	146	138	130	123	117	111	106	102	98	78	65	56	49	39	32	.....
32'-0"	166	4840	151	130	113	107	101	96	91	86	82	79	76	60	50	43	38	30	.....	.....
	167	5860	183	157	137	129	122	116	110	105	100	96	92	73	61	52	46	37	31	.....

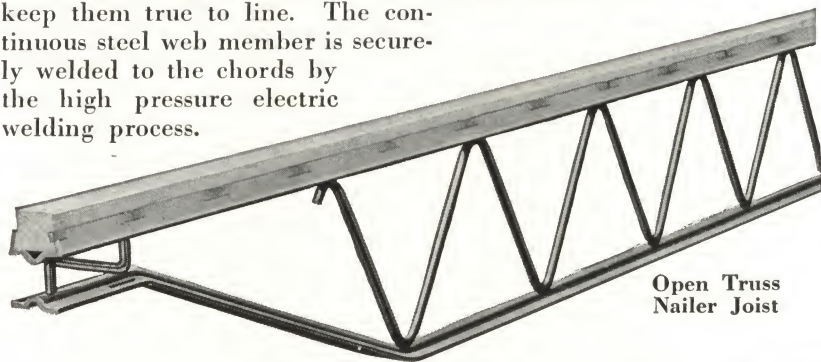
For floor construction joists should not be spaced over 24 in. o. c.

OPEN TRUSS NAILER JOISTS

TO make available for homes, apartments, stores and other light occupancy buildings the advantage of permanent construction at a cost comparable to wood has been the basic idea in the development of Nailer Joists.

In them are incorporated the basic features of Truscon "O-T" Open Truss Steel Joists, so extensively used in important buildings throughout the country. Unusual strength and rigidity result from their superior design and construction. Easy installation follows a complete and accurate fabrication in the Truscon plant.

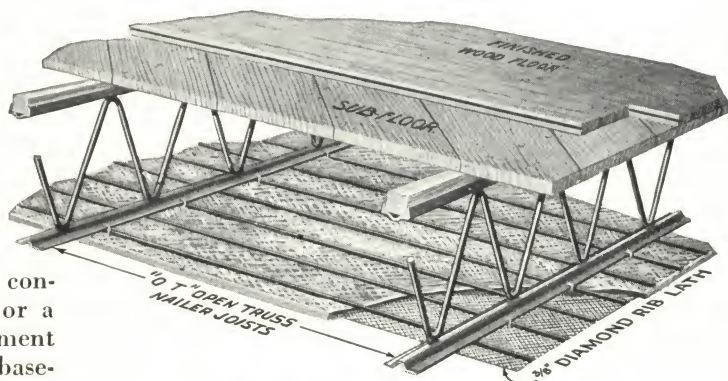
Wide, specially formed members for top and bottom chords impart stiffness to the Nailer Joists and keep them true to line. The continuous steel web member is securely welded to the chords by the high pressure electric welding process.



Open Truss
Nailer Joist

The end construction—a vital point in steel joist design—is unusually strong and rigid. Bearings for the joists are wide and ample. The underslung design at the supports not only insures stability of the joists during installation but provides additional head room under the supporting girders.

Their open web permits the passage of pipes and conduits in any direction through the floor construction without requiring the cutting of joists or a suspended ceiling. Steel Joists eliminate the settlement due to shrinkage and consequent separation of baseboard and floor, and its tendency to cause plaster cracking.



Nailer Joist Construction Details

ADVANTAGES

Truscon Nailer Joists reach the job ready for placing without cutting or fitting. The wood flooring is nailed directly to the wood nailing strips which are securely attached to the top chords of the joists.

The light weight of nailer joist construction lessens the time and labor required for erection and also saves materials in the supporting framework and foundations. Every detail of joists and attachments has been perfected by practical experience to simplify installation and assure dependable results.

With a metal lath plastered ceiling attached to the lower chord of the joists, the construction provides fire-safety to a substantial degree, preventing the spread of fire from below. Several floors can be installed at one time.

With Truscon Nailer Joists available it is no longer necessary from either a practical or economical standpoint to use wood joist construction in any building.

SPECIFICATIONS "O-T" NAILER JOISTS

General—Where Nailer Joist floor construction is specified, it is understood to mean Truscon "O-T" Nailer Joists of the size and spacing as shown on the drawings, together with a wooden floor over the joists and, unless otherwise specified, a metal lath and plaster ceiling directly beneath the joists.

The Nailer Joists shall be made of rolled steel shapes fabricated by high pressure electric automatic welding. The web member shall be a continuous plain round bar of constant diameter bent cold. The top chord shall be straight and the bottom chord bent up to form the bearing. The design and details of all members shall meet the requirements of the Steel Joist Institute Specifications. The wood nailer strip shall not be considered in determining the carrying capacity of the joist.

Nailer Strip—The wood nailer strip shall be treated with a moisture proofing solution to prevent its absorption of moisture. It shall be held securely on top of the top chord by pressure imbedment of the flanges of the top chord into its sides.

Painting—All Nailer Joists shall be spray painted with one shop coat of good metal protective paint.

Bearing and Anchorage—Joists shall have a minimum bearing of 4 in. on concrete or masonry and 2½ in. on steel. Every third joist bearing on masonry walls shall be anchored. Joists parallel to walls shall have the top and bottom chords anchored at the line of the rows of bridging. Every joist bearing on structural steel beams shall be fastened by an anchor (or welding).

Bridging—As soon as joists have been erected and before the application of construction loads, joists shall be bridged, with diagonal strut type bridging fabricated from ¾ in. channels. For spans up to 14 ft. 0 in. one row of bridging is required; two rows between 14 ft. 0 in. and 21 ft. 0 in.; and three rows over 21 ft. 0 in.

Ceilings—Where directly attached ceiling occurs, Bottom Chord Extensions shall be provided.

Note: The spacing of the Nailer Joists must not be more than the safe span of the flooring over the joists.

"O-T" NAILER JOIST LOADING TABLE

The following table gives the TOTAL safe uniformly distributed load carrying capacities of Truscon "O-T" Open Truss Nailer Joists at various spacings. The weight of DEAD loads must in all cases be deducted to determine the LIVE load carrying capacities of the joists.

TABLE 2

Clear span	Joist type	Total safe load pounds	Total safe load in pounds per square foot for various joist spacings																	
			12"	14"	16"	17"	18"	19"	20"	21"	22"	23"	24"	30"	3'-0"	3'-6"	4'-0"	5'-0"	6'-0"	7'-0"
8'-0"	80W	3100	388	332	291	274	258	245	233	221	211	202	194	155	129	111	97	78	65	55
9'-0"	80W	3100	344	295	258	243	230	218	207	197	188	180	172	138	115	98	86	69	57	49
10'-0"	80W	3100	310	266	233	219	207	196	186	177	169	162	155	124	103	89	78	62	52	44
11'-0"	80W	2818	256	220	192	181	171	162	154	146	140	134	128	102	85	73	64	51	43	37
12'-0"	80W	2583	215	185	161	152	144	136	129	123	117	112	108	86	72	62	54	43	36	31
	100W	3111	259	222	194	183	173	164	156	148	141	135	130	104	86	74	65	52	43	37
	120W	4000	333	286	250	235	222	211	200	190	182	174	167	133	111	95	83	67	56	48
13'-0"	80W	2385	183	158	138	130	122	116	110	105	100	96	92	73	61	52	46	37	31	26
	100W	2872	221	190	166	156	147	140	133	126	121	115	110	88	74	63	55	44	37	32
	120W	3744	288	247	216	203	192	182	173	165	157	150	144	115	96	82	72	58	48	41
14'-0"	80W	2214	158	136	119	112	105	100	95	90	86	83	79	63	53	45	40	32	26	22
	100W	2667	190	163	143	135	127	120	114	109	104	99	95	76	64	54	48	38	32	27
	120W	3476	248	213	186	175	166	157	149	142	135	130	124	99	83	71	62	50	41	35
	121W	4600	329	282	246	232	219	208	197	188	179	171	164	131	110	94	82	66	55	47
15'-0"	80W	2067	138	118	103	97	92	87	83	79	75	72	69	55	46	39	34	27	22	19
	100W	2489	166	143	124	117	111	105	100	95	91	87	83	66	55	47	42	33	27	23
	120W	3244	216	185	162	153	144	137	130	124	118	113	108	87	72	62	54	43	36	31
	121W	4600	307	263	230	216	204	194	184	175	167	160	153	123	102	88	77	61	51	44
16'-0"	80W	1938	121	104	91	85	81	76	73	69	66	63	61	48	40	35	31	25	20	17
	100W	2333	146	125	109	103	97	92	87	83	80	76	73	58	49	42	37	30	24	20
	120W	3042	190	163	143	134	127	120	114	109	104	99	95	76	63	55	48	38	32	27
	121W	4600	288	246	216	203	192	182	173	164	157	150	144	115	96	82	72	58	48	41
17'-0"	100W	2196	129	111	97	91	86	81	77	74	71	68	65	52	43	37	32	25	20	17
	120W	2863	168	144	126	119	112	106	101	96	92	88	84	67	56	48	42	34	27	23
	121W	4600	271	232	203	191	180	171	163	155	148	141	135	108	90	77	68	54	45	39
	141W	4600	271	232	203	191	180	171	163	155	148	141	135	108	90	77	68	54	45	39
18'-0"	100W	2074	115	99	86	81	77	73	69	66	63	60	58	46	38	33	27	21	17	14
	120W	2704	150	129	113	106	100	95	90	86	82	78	75	60	50	43	38	30	24	20
	121W	4444	247	212	185	174	165	156	148	141	135	129	124	99	82	71	62	49	41	35
	141W	4600	296	220	192	180	171	162	154	146	139	133	128	102	85	73	64	51	43	37
	161W	5481	305	261	228	215	203	192	183	174	166	159	152	122	102	87	76	61	51	44
19'-0"	100W	1965	103	89	78	73	69	65	62	59	56	54	52	41	34	30	25	20	16	13
	120W	2561	135	116	101	95	90	85	81	77	74	70	67	54	45	39	34	27	22	18
	121W	4211	222	191	166	156	148	140	133	127	121	116	111	89	74	64	56	44	37	32
	141W	4600	242	208	182	171	161	153	145	138	132	126	121	97	81	69	61	48	40	35
	161W	5193	273	234	205	193	182	173	164	156	149	143	137	109	91	78	68	55	46	39
20'-0"	100W	1867	93	80	70	66	62	59	56	53	51	49	47	37	31	27	22	17	14	11
	120W	2433	122	105	91	86	81	77	73	70	67	64	61	49	41	35	30	24	20	16
	121W	4000	200	171	150	141	133	126	120	114	109	104	100	80	67	57	50	40	33	27
	141W	4567	228	196	171	161	152	144	137	130	124	119	114	91	76	65	57	46	38	33
	161W	4933	247	212	185	174	165	156	148	141	135	129	123	99	82	70	62	49	41	35
21'-0"	120W	2317	110	94	83	78	73	69	66	63	60	57	55	44	37	32	26	21	17	14
	121W	3810	181	156	136	128	121	114	109	104	99	95	91	72	60	52	45	36	30	25
	141W	4349	207	177	155	146	138	131	124	118	113	108	104	83	69	59	52	41	35	30
	161W	4698	224	192	168	158	149	141	134	128	122	117	112	90	75	64	56	45	37	32
22'-0"	120W	2212	101	86	75	71	67	64	60	57	55	52	50	40	34	29	24	19	15	12
	121W	3636	165	142	124	117	110	104	99	94	90	86	83	66	55	47	41	33	27	22
	141W	4152	189	162	142	133	126	119	113	108	103	99	94	76	63	54	47	38	32	27
	161W	4485	204	175	153	144	136	129	122	117	111	106	102	82	68	58	51	41	34	29
23'-0"	120W	2116	92	79	69	65	61	58	55	53	50	48	46	38	31	27	22	17	14	11
	121W	3478	151	130	113	107	101	96	91	86	82	79	76	60	50	43	38	30	24	20
	141W	3971	173	148	130	122	115	109	104	99	94	90	86	69	58	49	43	35	28	23
	161W	4290	187	160	140	132	124	118	112	107	102	97	93	75	62	53	47	37	31	26
24'-0"	120W	2028	85	72	63	60	56	53	51	48	46	44	42	34	28	24	19	15	12	10
	121W	3333	139	119	104	98	93	88	83	79	76	73	70	56	46	40	35	28	22	18
	141W	3806	159	136	119	112	106	100	95	91	87	83	79	63	53	45	40	32	26	22
	161W	4111	171	147	128	121	114	108	103	98	93	89	86	69	57	49	43	34	28	23
25'-0"	141W	3653	146	125	110	103	97	92	88	84	80	76	73	58	49	42	37	30	24	20
	161W	3947	158	136	119	112	105	100	95	90	86	83	79	63	53	45	39	32	26	22
26'-0"	141W	3513	135	116	101	95	90	85	81	77	74	71	68	54	45	39	34	27	22	18
	161W	3795	146	125	110	103	97	92	88	83	80	76	73	58	49	42	37	30	24	20
27'-0"	141W	3383	125	107	94	88	83	79	75	71	68	65	63	50	42	36	31	25	20	17
	161W	3654	135	116	102	96	90	85	81	77	74	71	68	54	45	39	34	27	22	18
28'-0"	141W	3262	117	100	88	82	78	74	70	67	64	61	58	47	39	33	28	22	18	15
	161W	3524	126	108	95	89	84	80	76	72	69	66	63	50	42	36	32	26	21	17
29'-0"	161W	3402	117	100	88	83	78	74	70	67	64	61	59	47	39	34				
30'-0"	161W	3289	110	94	83	77	73	70	66	63	60	57	55	44	37	32				
31'-0"	161W	3183	103	88	77	72	69	65	62	59	56	54	51	41	34	30				
32'-0"	161W	3083	96	82	72	68	64	61	58	55	53	50	48	39	32					

For floor construction joists should not be spaced over 24 in. o. c.

“CLERESPAN” JOISTS

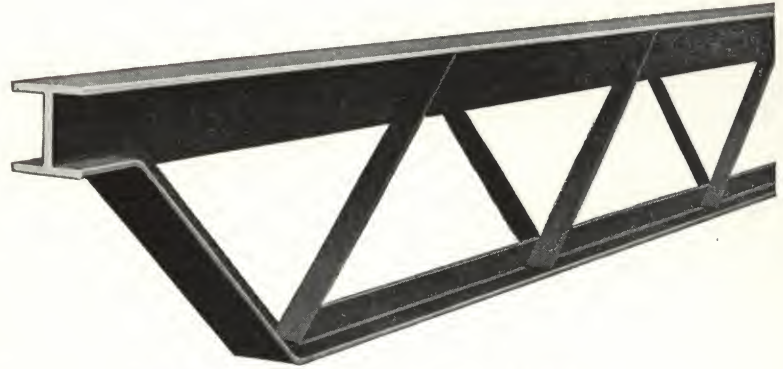
Truscon “Clerespan” Joists when employed in floor construction can be used advantageously in buildings for all types of occupancy regardless of their location. In many types of buildings their use will automatically eliminate all columns from the structure with the exception of those in the outer walls. Greater floor areas are thus provided without obstructing columns than has ever heretofore been accomplished. When used in roof construction, “Clerespan” Joists meet every requirement of every type of building.

“Clerespan” Joists made of hot rolled structural tees, are designed in accordance with standard engineering practice. Top chords are designed for bending between panel points as well as direct compression.

“Clerespan” Joists all have a camber built in them. They are fabricated by welding in a modern shop noted for its welding equipment and developments in automatic welding.

“Clerespan” Joists possess unusual lateral stiffness. This is due to the high radius of gyration about the vertical axis.

“Clerespan” accessories as anchors, lath clips, screed clips, bearing plates, etc., are similar to those used with open truss joists. Diagonal bracing or bridging is provided by hot rolled angles. Lines of bracing are about 10 ft. 0 in. apart.



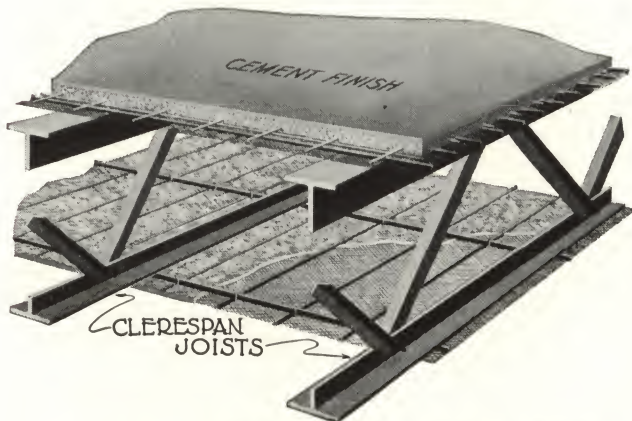
“CLERESPAN” JOIST LOADING TABLE

The following table gives the TOTAL safe UNIFORMLY distributed load carrying capacities of Truscon “Clerespan” Joists. The weight of DEAD loads must in all cases be deducted to determine the LIVE load carrying capacities. CARRYING CAPACITIES MUST BE REDUCED FOR CONCENTRATED LOADS.

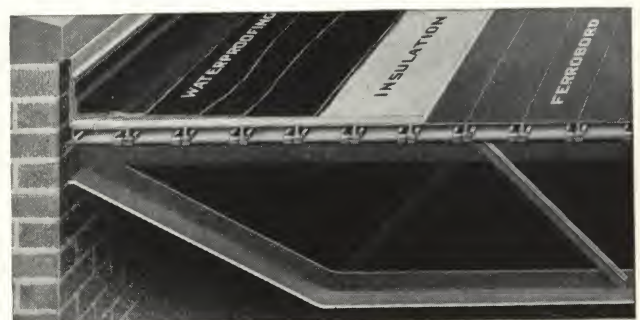
TABLE 3

“Clerespan” Joist Type		CLEAR OPENING OR NET SPAN															
		29-0	30-0	31-0	32-0	33-0	34-0	35-0	36-0	37-0	38-0	39-0	40-0	41-0	42-0	43-0	44-0
20' Depths	201	250	238	226	215	203	192	182	172	163	155	148	141				
	202	276	262	249	236	223	210	197	187	177	167	159	151				
	203	311	296	282	270	254	240	226	214	202	192	182	173				
	204	372	353	335	315	297	280	265	251	238	226	215	205				
	205	404	385	367	350	330	312	294	278	262	248	236	224				
	206	489	464	439	412	387	365	344	325	308	292	277	264				
	207	.....	504	479	456	433	409	387	366	347	330	314	299				
	208	.....	.....	.....	499	471	444	420	398	377	358	340	324				
	209	.....	.....	.....	.....	.....	501	474	449	426	404	385	366				
	2010	.....	.....	.....	.....	.....	.....	514	487	462	438	416	395				
	2011	.....	.....	.....	.....	.....	.....	.....	.....	502	475	451	429				
	2012	.....	.....	.....	.....	.....	.....	.....	.....	.....	520	493	469				
	2013	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	514	489				
	2014	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	533				
24' Depths	242	200	192	185	178	171	165	159	152	145	139	133	127				
	243	227	219	211	203	196	189	183	174	166	160	153	146				
	244	274	263	252	242	232	222	212	203	194	186	179	172				
	245	319	303	288	274	261	248	238	227	216	208	198	190				
	246	351	339	325	314	303	290	277	264	253	242	232	222				
	247	390	374	360	346	333	321	309	296	283	271	260	250				
	248	450	427	407	387	369	353	337	322	309	296	284	272				
	249	479	460	442	426	409	394	379	363	347	333	320	307				
	2410	.....	523	498	475	453	432	413	395	378	363	348	334				
	2411	.....	.....	.....	.....	494	471	450	431	412	395	378	362				
	2412	.....	.....	.....	.....	.....	513	490	469	449	430	413	396				
	2413	.....	.....	.....	.....	.....	.....	513	490	469	449	430	413				
	2414	.....	.....	.....	.....	.....	.....	.....	492	470	450	431	413				
28' Depths	284	45-0	46-0	47-0	48-0	49-0	50-0	51-0	52-0	53-0	54-0	55-0	56-0				
	285	218	211	205	198	193	186	181	176	171	166	161	155				
	286	253	243	233	224	215	207	199	192	184	177	171	165				
	287	270	262	254	247	240	233	226	219	213	206	199	192				
	288	304	294	285	276	268	259	252	244	237	230	222	215				
	289	353	341	328	316	303	292	281	271	261	252	243	235				
	2810	372	359	346	332	319	306	295	283	272	263	253	244				
	2811	410	397	383	370	356	341	328	316	304	292	282	272				
	2812	460	444	430	416	403	390	376	362	349	337	325	314				
	2813	497	481	465	450	436	422	409	394	379	366	353	341				
	2814	.....	.....	.....	488	468	449	432	416	400	385	371	358				
32' Depths	328	53-0	54-0	55-0	56-0	57-0	58-0	59-0	6-0	61-0	62-0	63-0	64-0				
	3210	288	280	272	265	257	249	241	233	226	219	212	206				
	3211	332	323	314	306	296	289	281	273	264	256	248	240				
	3212	371	362	351	342	332	324	315	308	300	292	284	275				
	3213	405	394	383	373	363	353	344	335	326	318	308	299				
	3214	450	437	425	413	398	385	372	360	348	337	326	316				
	3215	480	467	454	442	430	418	405	391	379	366	355	344				
	3216	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....				
	3217	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....				
	3218	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....				

For Roofs Only



“Clerespan” Joists with Finished Floor of Cement
3/8 In. Diamond Rib Lath for Floor and Ceiling



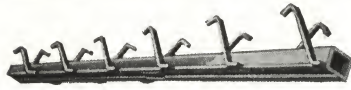
“Clerespan” Joists with Ferrobor Steeldeck Roof

PRESSED STEEL INSERTS

SLOTTED INSERTS

Truscon Slotted Inserts are attached to the forms and are completely embedded in the concrete construction. Only the narrow slot flush with the concrete is seen in the completed work. The bolt can be moved along this slot to any location, allowing wide variation in position. Truscon Slotted Inserts are used with equal success in ceilings, slabs, beams or columns. The anchors are integral with the insert and occur every 6 in. on each side.

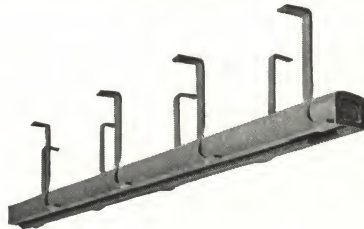
Standard lengths 12, 18, 24, 36, 48 and 60 in. Any desired length or run is obtained by removing end caps and butting the open ends together.



BRICK INSERTS

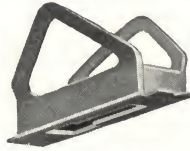
Truscon Brick Slotted Inserts have all the qualities and properties of Truscon Concrete Slotted Inserts.

The prongs are so bent that they provide positive anchorage of the insert to the masonry. They are furnished in standard lengths of 12, 18, 24, 36, 48 and 60 in.



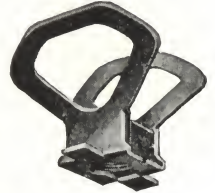
ADJUSTABLE INSERTS

Truscon Adjustable Inserts are made of pressed steel and have the same simple method of application to concrete and adjustment for bolts as the slotted inserts, but without their wide range of adjustability. Made to carry $\frac{1}{2}$, $\frac{5}{8}$, and $\frac{3}{4}$ in. bolts.



TAPPED INSERTS

Truscon Tapped Inserts are made from pressed steel of highest quality, and furnished tapped for $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$ and $\frac{3}{4}$ in. bolts. Particularly adapted for work where arrangement has been determined before start of construction. Where required, this type of insert can be furnished tapped for $\frac{3}{8}$ or $\frac{1}{2}$ in. pipe.



CARRYING CAPACITIES

Since the supporting capacity of inserts is largely dependent on the strength of the concrete and the bolts, we cannot guarantee any particular loading. The following working loads have been determined by tests and give a factor of safety of at least four.

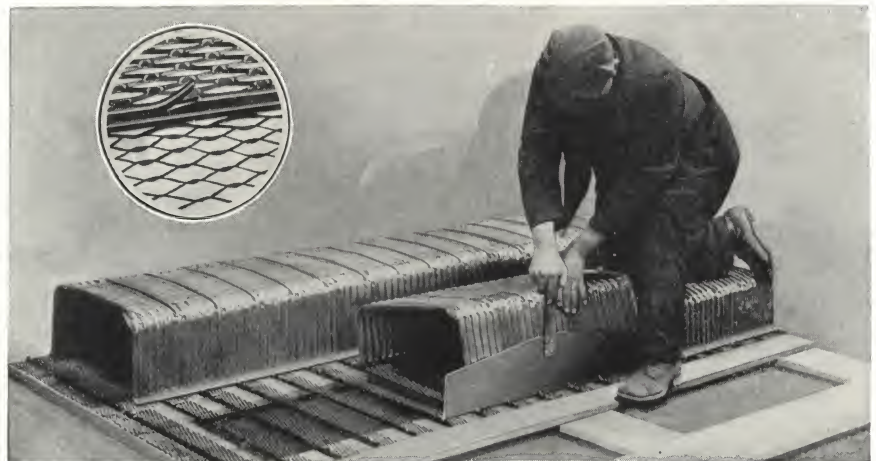
Inserts	For 2000 lb. concrete
Slotted Inserts	2000 lbs. per lin. ft.
Adjustable Inserts	
$\frac{1}{2}$ in.	800 lbs. per insert
$\frac{5}{8}$ and $\frac{3}{4}$ in.	1400 lbs. per insert
Tapped Inserts	
All Sizes	1500 lbs. per insert

FLORETYPE CONSTRUCTION—PERMANENT STEEL TILE

Truscon Floretype are of two types—Ribbed Tile and Corrugated Tile. Both types are die formed in powerful presses, which insures uniformity of cross section. Ribbed tile in addition to having corrugated sides, have deep stiffening ribs across the top every 5 in. This gives the tile exceptional stiffness.

Properties of Floretype

	Ribbed Tile
Standard Depths	4, 6, 8, 10, 12 and 14 in.
Standard Width at base	20 in.
Special Widths	10 and 15 in.
Standard Length will lay	2 ft. 2 in.
Half Length will lay	1 ft. 1 in.
Tapered Tile Length	2 ft. 2 in.
Width of Tapered Tile Narrow End	Nominally 16" but can be furnished any width or depth required
	Corrugated Tile
Standard Depths	4, 6, 8, 10, 12, 14 and 16 in.
Standard Width at base	20 in.
Special Widths	12 and 16 in.
Standard Length will lay	2 ft. 10 in.
Half Length will lay	1 ft. 4 in.
Tapered Tile Length	2 ft. 10 in.
Width of Tapered Tile Narrow End	16 in.



LOCKTYPE LATH

Locktype lath is a $\frac{3}{8}$ Diamond Ribbed Lath furnished by special fabrication in rolls 100 ft. 0 in. long and 24 in. wide. The lath is furnished in weights of 3.4 lbs. and 4.0 lbs. per sq. yd. in either black or copper bearing steel. The ribs of the lath are pronged to engage the flange of the floretype.

Advantages of Permanent Tile

Saves in concrete due to stiffness of the pan.
Saves in placing costs, less weight per unit and removing of tile after pouring of concrete is eliminated.
Simplifies form work.
Saves in placing pipes and conduits.

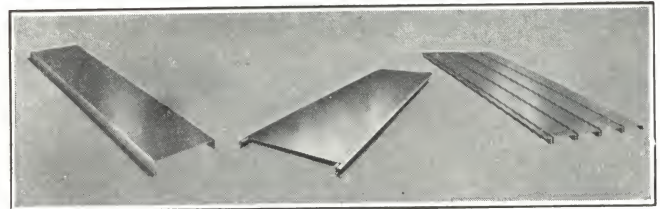
Locktype construction is easily and speedily erected. The lath is rolled out on the forms, tacked in place, and the tile slipped into place by means of a special tool. The pressure of the wet concrete on the tile produces tension in the lath, resulting in a drum-like surface for a plaster base.

Advantages of Locktype Lath

Insures uniform width of joists and positive attachment of ceiling to the structural slab.
Saves in placing ceiling lath.
Saves in plastering due to the rigid lath and drum-like surface provided.

STEELDECK ROOFS

STEELDECK Roofs, insulated to any degree and waterproofed, are of a broad and general usefulness. They are particularly adaptable to theatres, gymnasiums, schools, auditoriums, public halls and industrial buildings requiring large floor areas free from supports and obstructions. Steeldecks are plates of copper-bearing steel of standardized lengths and widths, with ribs formed longitudinally in the plates. The ribs are on the underside of the plates and the top is a smooth level surface to receive insulation and waterproofing. They can be used to advantage on straightway, flat, pitched and curved roofs with a minimum radius of 40 ft.

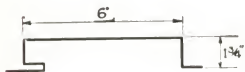


Ferrobord

Ferrodeck

Ferroplate

FERROBORD



This roofdeck, 6 in. wide, is so formed that each sheet firmly interlocks with the adjoining sheet to form a continuous deck over the entire roof.

Ferrobord 6 in. wide is used for spans between 6 and 10 ft. Made in 20 and 18 gauge with ribs either 1 1/4 or 1 3/4 in. deep depending upon the load.

Any length may be supplied and butt joints may occur between supports by using butt clips.

Welding Ferrobord—This deck is especially adaptable for the arc welding process of erection because the flat, bottom flange of the rib presents an extremely easy and simple welding condition. The operation is done from above, with each weld readily accessible.

FERROBORD SECTIONS FOR DIFFERENT SPANS AND ROOF LOADINGS

Type of Ferrobord	Span in feet	Total dead load and live load per square foot											
		25 lbs.		30 lbs.		35 lbs.		40 lbs.		45 lbs.		50 lbs.	
		Gauge	Depth	Gauge	Depth	Gauge	Depth	Gauge	Depth	Gauge	Depth	Gauge	Depth
6" wide	6' 0"	20	1 1/4"	20	1 1/4"	20	1 1/4"	20	1 1/4"	20	1 1/4"	20	1 1/4"
6" wide	6' 6"	20	1 1/4"	20	1 1/4"	20	1 1/4"	20	1 1/4"	20	1 1/4"	20	1 1/4"
6" wide	7' 0"	20	1 3/4"	20	1 3/4"	20	1 3/4"	20	1 3/4"	20	1 3/4"	20	1 3/4"
6" wide	7' 6"	20	1 3/4"	20	1 3/4"	20	1 3/4"	20	1 3/4"	20	1 3/4"	18	1 3/4"
6" wide	8' 0"	20	1 3/4"	20	1 3/4"	20	1 3/4"	20	1 3/4"	20	1 3/4"	18	1 3/4"
6" wide	8' 6"	20	1 3/4"	20	1 3/4"	20	1 3/4"	20	1 3/4"	20	1 3/4"	18	1 3/4"
6" wide	9' 0"	20	1 3/4"	20	1 3/4"	18	1 3/4"	18	1 3/4"	18	1 3/4"	18	1 3/4"
6" wide	9' 6"	20	1 3/4"	18	1 3/4"	18	1 3/4"	18	1 3/4"	18	1 3/4"	18	1 3/4"
6" wide	10' 0"	18	1 3/4"										

The above table has been computed on the following assumptions:

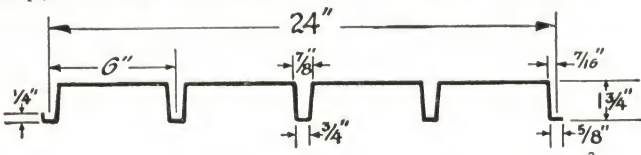
Maximum unit fiber stress 18,000 pounds per sq. inch.

Maximum allowable deflection is one two-hundred and fiftieth ($\frac{1}{250}$) of the span in inches based on either a uniform or an equal concentrated load.

Dead load of Truscon Ferrocoastic with insulation, built-up roofing and acoustical panels approximately five (5) to nine (9) pounds per sq. foot, according to the type of material used.

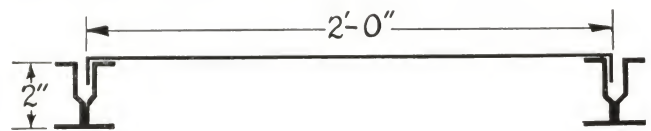
FERROPLATE

18, 20, 22 or 24 gauge copper-bearing sheets or galvanized sheets (before fabrication) 24 in. wide; ribs 1 1/4 in. and 1 3/4 in. deep; maximum length, under 12 ft. Welded to purlins.



FERRODECK

An assembly of sub-purlins and reinforced roof sheets. Sub-purlins, 2 in. deep, 18 gauge. Roof sheets, 2x4 ft., 18 or 20 gauge; substantially reinforced with angles every 16 in. on center.



FERROCOUSTIC

Ferrocoastic Roofdecks provide all the advantages of Steeldeck with the additional feature of acoustical correction for auditoriums, large rooms, gymnasiums and similar places.

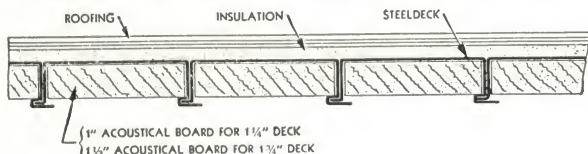
FERROBORD, 6 in. wide, with acoustical treatment, consists of panels of any commercial acoustical board fitted between the ribs of these roofdecks. The flanges of the ribs form a positive mechanical support. These ribs are either 1 1/4 or 1 3/4 in. deep, allowing either 1 or 1 1/2 in. of acoustical treatment to be used. Sheets with acoustical board inserted are welded to purlins, eliminating metal clips and adding strength to the construction.

The Ferrobord construction with the Ferrocoastic treatment also makes an excellent, light-weight, quiet floor construction of

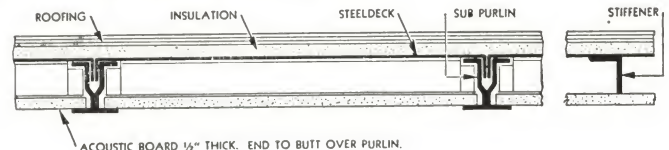
minimum thickness when surfaced with cement, magnesite, rubber tile, linoleum or other materials, for its structural design enables it to carry unusually heavy loads.

FERRODECK with acoustical board applied makes also an excellent installation. The sub-purlins are secured to the supporting roof framing with clips or by the welding process.

The acoustical board, which is 1/2 in. thick, is laid on the bottom flanges of the sub-purlins, then the fabricated roof sheets are placed so that the flanged-over edges of adjacent sheets fit side by side into the openings along the tops of the sub-purlins. The acoustical board automatically is held firmly in place by the stiffening angles in the roof sheets.



1" ACOUSTICAL BOARD FOR 1 1/4" DECK
1 1/2" ACOUSTICAL BOARD FOR 1 3/4" DECK



ACOUSTIC BOARD 1/2" THICK. END TO BUTT OVER PURLIN.

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